MONITORING REPORT FOR 2018

STREAMSIDE TAILINGS OPERABLE UNIT

SILVER BOW CREEK/BUTTE AREA NPL SITE

prepared for

Montana Department of Environmental Quality
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RESPEC

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EXECUTIVE SUMMARY

The performance monitoring program evaluates the progress of remedial actions in the Streamside Tailings Operable Unit (SSTOU) of Silver Bow Creek. Environmental media monitored in 2018 included surface water, instream sediment, groundwater, vadose zone water, macroinvertebrates, periphyton, and stream geomorphology. This report summarizes results of data collected for each of these environmental media and evaluates progress toward attainment of performance goals as of 2018.[1]

For more than a century, from the 1870s through the 1980s, Silver Bow Creek received direct and indirect waste rock, slag (smelting byproduct), mill tailings, contaminated groundwater [Chadwick et al., 1985; Luoma et al. 2005], and raw municipal sewage inputs. An estimated 2 million cubic meters of tailings were deposited directly into the stream [Luoma et al., 2005]. Prior to remediation, streamside tailings deposits were distributed along the entire length of the stream [Brook and Moore, 1989], and localized deposit depths exceeded 5 meters (m). Much of the floodplain was devoid of vegetation due to the toxicity of floodplain tailings [Luoma et al., 2005]. Throughout the mining period (c., 1870 to 1982), the stream was utilized primarily as a sewer for the removal of industrial wastes.

In November 1995, Montana Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (USEPA) issued a Record of Decision (ROD) for Silver Bow Creek [DEQ and USEPA, 1995] that identified the final site remedy and the agencies' rationale for selecting that remedy. The major remedial actions that resulted from the ROD included excavation of tailings and related impacted soils from the floodplain of Silver Bow Creek, and the subsequent reconstruction of the stream channel and floodplain.

The portion of Silver Bow Creek, and the adjacent floodplain, undergoing remediation under the consent decree settlement [Montana v. AR, 1998] is designated as the SSTOU. The SSTOU is divided into four subareas based upon geologic and topographic features that control soil, hydrogeologic, geomorphic, surface water, ecological, demographic, and land use characteristics of the SSTOU [DEQ and USEPA, 1995]. Each remedial subarea is further divided into five remedial reaches, each approximately one mile in length, for a total of 20 remedial reaches within the SSTOU which are identified longitudinally from upstream to downstream by the letters A-T.

[1] The Record of Decision (ROD) identifies remediation goals and performance standards for surface water and groundwater. The performance monitoring program for the SSTOU evaluates a broader range of parameters than these ROD-required performance standards. The performance monitoring program identifies performance goals for the other parameters as a means of effectively discussing and evaluating the effectiveness of the remedy and restoration actions taken in the SSTOU. Use of the term "performance goal" or similar terms in this or other monitoring plans or reports is not intended to make each goal a ROD-required remediation goal or performance standard.

Remedial actions include excavation of tailings and contaminated soils from the Silver Bow Creek floodplain, removal of those soils to a local repository or to the Opportunity Ponds, replacement of removed tailings with clean fill material, native grass seeding, some willow and shrub plantings, and complete channel reconstruction [USEPA, 2011]. Restoration actions involve various habitat improvements that include the addition of organic matter to the borrow soils and additional plant revegetation and aquatic habitat components [NRDP, 2005]. As of 2018, major remedial activity is complete in all Subareas of the SSTOU. Additional repairs and removal of remnant tailings in Subareas 1 and 2 occurred from 2016 through 2018.

Performance goals referenced in this report for surface water contaminants of concern (COC) were those specified by the SSTOU ROD. Specifically, the performance goal is for all samples collected in the SSTOU to "meet the more restrictive aquatic life or human health standards for surface water identified in DEQ Circular WQB-7, through application of I-classification requirements" [DEQ and USEPA, 1995]. The SSTOU ROD also specified that surface water monitoring should be conducted quarterly and identified a suite of water chemistry parameters to be monitored, including six metal contaminants of concern (COCs): arsenic, cadmium, copper, lead, mercury, and zinc. In 2018, 16 sites were included in the monitoring network, including all sites specified by the SSTOU ROD. Twelve sites were sampled in the SSTOU. These sites were supplemented with two sites in Silver Bow Creek that represent previously contaminated and subsequently remediated portions of Silver Bow Creek located immediately upstream from the SSTOU in the "Lower Area One" (LAO) portion of the Butte Priority Soils Operable Unit. In addition, two sites were sampled in tributary streams (German Gulch and Blacktail Creek) which are located within the watershed, but outside the area of primary contamination.

Surface water monitoring results over the 2010-2018 time period demonstrate some evidence that remedial actions have resulted in reduced COC concentrations and variability during this recent time frame. It should also be noted that peak spring runoff streamflow levels in 2018 were among the highest in the SSTOU over the past 20 years and since remediation efforts began. It is expected for some mobilization of bed sediments and associated sediment-bound contaminants to occur during these high peak flow events. Variability associated with natural systems can confound the ability to distinguish trends in the short term, which is part of the reason for long term monitoring.

In Subareas 1 and 2, concentrations at most sites have remained relatively level since 2010 and variability appears to be low. At sites in Subareas 3 and 4, particularly sites near the German Gulch confluence (Subarea 3) and at Opportunity (Subarea 4), total recoverable COC concentrations have demonstrated a steady decline. However, despite improvements, exceedances of surface water performance goals were common in 2018 in each subarea.

Copper was the COC which most commonly exceeded the surface water performance goals in 2018. Copper exceeded the performance goal at every SSTOU site in 2018 during at least one quarter and at three sites copper exceeded the performance goal during each quarter. Overall, copper concentrations exceeded the performance goal in 77 percent (37 of 48) of the SSTOU

samples. The proportion of SSTOU samples (n = 48) which exceeded the performance goals for other total recoverable metal COC concentrations, in order of frequency, were mercury and arsenic (each 42 percent), lead and zinc (each 4 percent), and cadmium (0 percent).

Since the 2016 upgrades to the WWTP, a substantial decrease in some nutrient concentrations has been observed in Silver Bow Creek below the WWTP. This is most evident in ammonia concentrations, for which concentrations were below the detection limit in all 2018 quarters except Q1. The high concentrations observed in Q1 at all Silver Bow Creek sites downstream from the WWTP suggested some disruption or change in treatment processes occurred at the plant during that monitoring period. In contrast, prior to 2016, ammonia concentrations were commonly several orders of magnitude greater than the reporting limit. Total nitrogen, and nitrate plus nitrite concentrations in 2018 increased sharply at the WWTP but returned to levels similar to, or lower than, background concentrations. Total phosphorus concentrations did not increase sharply at the Butte WWTP in 2018 as had occurred during nearly all previous monitoring periods prior to the upgrades in 2016, suggesting the WWTP may have improved their ability to control phosphorus loading. However, despite the upgrades, total nitrogen and total phosphorus concentrations remained well above the DEQ standards both above and below the WWTP.

Performance goals were not identified for instream sediment COCs in the SSTOU ROD [DEQ and USEPA, 1995]. The 1998 Explanation of Significant Differences [DEQ and USEPA, 1998] adopted criteria for sediment removal which provided for removal of the contaminated streambed material and replacement with clean material throughout the operable unit. In lieu of specific numeric performance goals for instream sediment, this monitoring program has identified consensus-based sediment quality guidelines including the "threshold effect concentrations" (TECs) and "probable effect concentrations" ([PECs) from MacDonald et al. [2000]. In addition to comparing sediment COC concentrations to those reference values, sediment monitoring in the SSTOU is conducted to determine the extent to which the streambed may be re-contaminated from upstream or other sources. As with surface water, the SSTOU ROD also specified that instream sediment monitoring be conducted quarterly at each surface water sampling site for each COC. Sediment samples were analyzed for COC concentrations in three size fractions (<0.063 mm, 0.063-1 mm, and 1-2 mm) and for the weighted mean concentration among those size fractions.

Weighted mean sediment COC concentrations in the SSTOU exceeded the TEC (and often PEC) reference values at virtually all sites in 2018 for copper and other COCs. However, the highest concentrations for copper and most other COCs in sediment often occurred at the LAO sites in the vicinity of the Slag Canyon in Butte (upstream from the SSTOU). Downstream from the Slag Canyon, sediment COC concentrations tended to decrease rapidly through Subarea 1 and were lowest in Silver Bow Creek in Subarea 2. Concentrations in Subarea 3, particularly below German Gulch were also high, then tended to decrease through Subarea 4.

As with surface water, the SSTOU ROD defined the performance goals for groundwater quality as having COC concentrations which, "Attain compliance with applicable Circular WQB-7 standards, federal Maximum Contaminant Levels (MCLs) and federal nonzero Maximum Contaminant Level Goals (MCLGs) for all SSTOU groundwater." Moreover, "The groundwater levels to be attained consist of the more stringent of the MCL, any nonzero MCLG, or the WQB-7 human health standard for each parameter." Groundwater was monitored at 27 wells located in nine well clusters including 18 monitoring wells and nine background wells. Nine well clusters were located in the Silver Bow Creek floodplain and one cluster was located near the Mine Waste Relocation Repository (MWRR). Wells located in the MWRR were monitored during July and October of 2018, whereas the rest of the sites were monitored during October only.

In the floodplain well clusters in 2018, several COCs (arsenic, cadmium, copper, lead, and zinc) exceeded the performance goals in at least one monitoring well. Arsenic was the only COC which exceeded performance goals in background wells. Of the samples collected from the monitoring wells located in the floodplain clusters (n = 18), 17 percent exceeded the arsenic performance goal, 39 percent exceeded the cadmium performance goal, 6 percent exceeded the copper performance goal, 6 percent exceeded the lead performance goal, and 39 percent exceeded the zinc performance goal. In the MWRR cluster, one out of five monitoring wells (25 percent) had a sample with an arsenic concentration that exceeded the performance goals. However, it is worth noting that the MWRR cluster background well samples also exceeded the arsenic standard during both sampling events.

Vadose zone water quality is monitored in the vicinity of the MWRR to assess mobility of COCs from the repository into the underlying groundwater supply and surface water in the SSTOU. As with groundwater monitoring in the MWRR, vadose zone water was monitored in July and October utilizing eight soil lysimeters (seven monitoring lysimeters and one background lysimeter). Monitoring at these same lysimeters has occurred each year since 2010. Performance goals were not established in the SSTOU ROD for vadose zone water. Instead, COC concentrations and other parameters (other metals, common ions, and physical parameters) are monitored to assess if any COC concentrations appear to be increasing which would potentially indicate leaching of COCs from the repository.

Based on a 9-year time series, there was no compelling evidence that COC concentrations may be increasing in vadose zone water with a couple minor exceptions. Two lysimeters showed some evidence of increasing COC concentrations through time. One lysimeter showed some evidence of increasing arsenic concentrations, and another showed some evidence of increasing copper concentration. However, these trends were not strong and weren't consistent for other COCs. This suggests that the results of the trend test may be spurious (i.e., Type I error or "false positive") and we are not confident that the repository was in fact leaching COCs in 2018. Continued monitoring of vadose zone chemistry near the repository appears to be warranted, and concentrations in both lysimeters will be monitored in future years to look for continued increasing trends. One lysimeter, damaged in 2017, was was discontinued and replaced in 2018.

Biological (macroinvertebrate and periphyton) samples were collected at each surface water sampling site during the third quarter of 2018. As with other environmental media monitored which did not have ROD-specified performance goals, reference values from specific bioindices are used to evaluate macroinvertebrate and periphyton biointegrity. Among other bioassessment indices, the Montana Valley and Foothill Prairies (MVFP) bioassessment index [Bollman, 1998] was used to evaluate macroinvertebrate biointegrity in the SSTOU. Except for one site, which was "severely" impaired, all SSTOU sites were classified as "moderately" impaired for macroinvertebrate biointegrity (MVFP scores ranged from 17-50 percent). In the four sites monitored outside the SSTOU, impairment scores ranged from 22 percent "moderate" (LAO sites) to 83 percent "non-impaired" (tributary sites). Stressors implicated as likely impairments to macroinvertebrate biointegrity in the 12 SSTOU sites included nutrients (4 sites), habitat disturbance (2 sites), sediments (4 sites), and hypoxia (7 sites). Metals were implicated as a likely stressor to the macroinvertebrate assemblage at two sites in 2018.

Periphyton samples were evaluated for an array of metrics and bioindices to evaluate impairments from specific stressors such as metals, nutrients, and sediment. One set of bioindices, the increaser taxa bioindices, produce impairment probabilities based on the relative abundance of sampled taxa which are believed to be tolerant or sensitive to particular stressor conditions. Among the 12 SSTOU sites, the probabilities of impairment ranged from 26 to 88 percent for nutrients, from 3 to 13 percent for metals, and from 28 to 95 percent for sediments.

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1.0 SURFACE WATER

1.1 INTRODUCTION

This chapter describes the results of surface water monitoring activities conducted in 2018 to assess the effectiveness of remedial actions implemented within the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site (Figure 1-1). Data were collected to describe the effects of remedial actions on surface water quality and to gage progress toward attainment of performance goals.

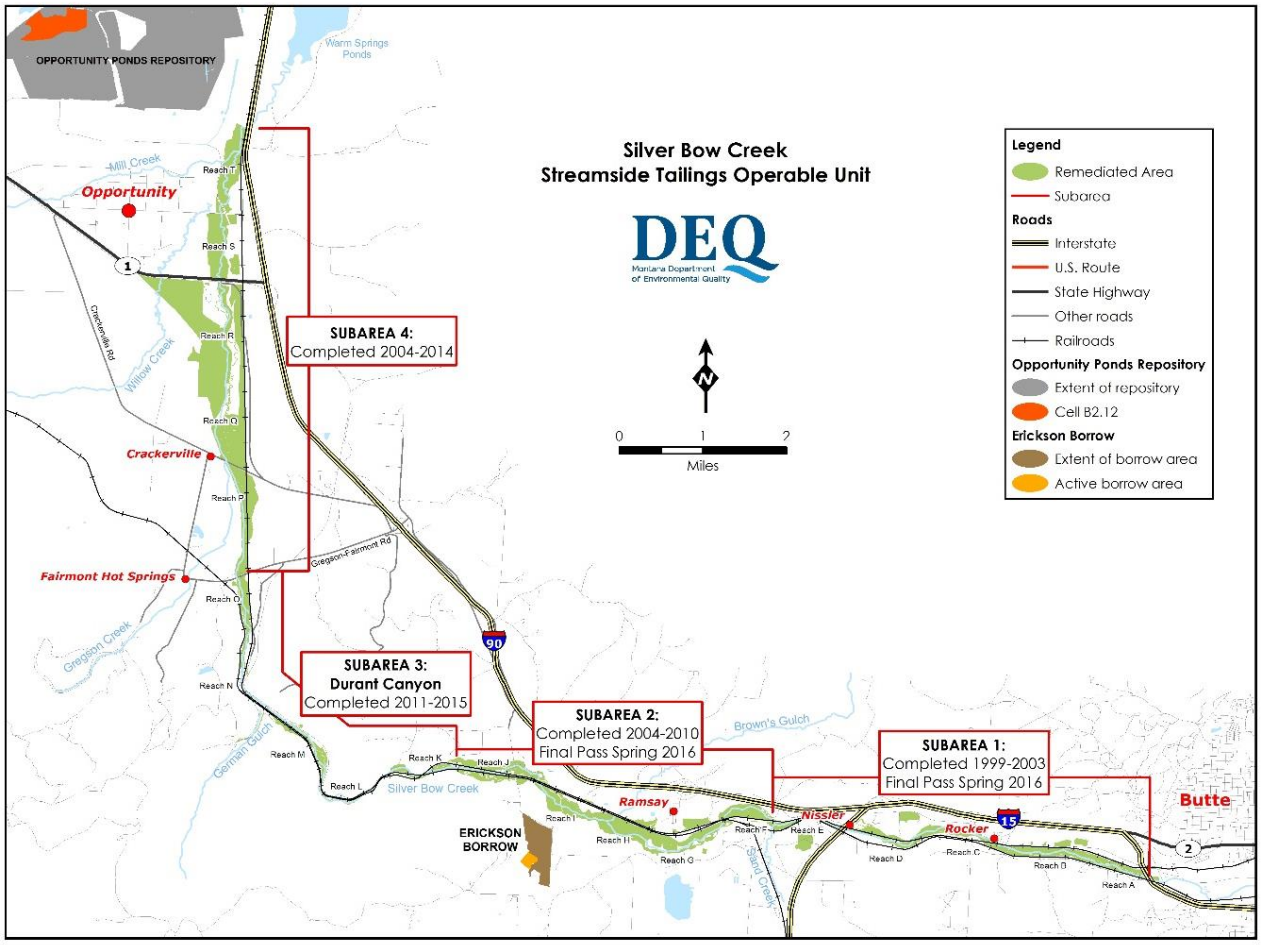

Figure 1-1. Remedial subareas of the Streamside Tailings Operable Unit.

1.2 PERFORMANCE GOALS

The SSTOU Record of Decision (ROD) specified that the final remediation goal for contaminant of concern (COC) concentrations in surface waters was to "meet the more restrictive of aquatic life or human health standards for surface water identified in DEQ Circular WQB-7, through application of I-classification requirements" [DEQ and USEPA, 1995]. Since the issuance of the ROD, Circular WQB-7 [MDHES, 1994] has been replaced by Circular DEQ-7 [DEQ, 2017], and standards for some COCs have been revised. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP) provide for use of the new, more stringent standards where compliance with the new standard is necessary to ensure protectiveness of human health and the environment. Although there has not yet been a formal decision to adopt the new, more stringent standards for the SSTOU, this report uses the more stringent of either the ROD's Circular WQB-7 [MDHES, 1994] or the current Circular DEQ-7 [DEQ, 2017] standards for evaluating compliance for the COCs.

The most restrictive surface water standard for each COC (arsenic, cadmium, copper, lead, mercury, and zinc) is either the chronic aquatic life standard (ALS) or the human health surface water standard (HHSWS) from either Circular WQB-7 [MDHES, 1994] or Circular DEQ-7 [DEQ, 2017]. In both versions, the chronic ALS is hardness-based for cadmium, copper, lead, and zinc. Thus, the chronic ALS varies in relation to water hardness for those metals, in all cases becoming less restrictive as water hardness increases. The most restrictive surface water standard for each COC is depicted Table 1-1. This report uses the current Circular DEQ-7 [DEQ, 2017] standards as reference values for metals which are not COCs (Table 1-2).

The most current DEQ Circular-7 surface water standards for each metal are identified in Table 1-1. Additionally, the SSTOU ROD specifies that the remedial action objective should "support the growth and propagation of fishes and associated aquatic life…including a self-sustaining population of trout species" provided that upstream contaminant sources are eliminated.

Silver Bow Creek is classified as an "I" stream under the MCA 75-5-301 and associated administrative rules. Designated beneficial uses for I-class streams are "drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply". I-classified streams include the following criteria for physical properties of water:

- Dissolved oxygen concentration must not be reduced below the applicable standards given in Circular DEQ-7 (i.e., 1-day minimum = 3 mg/L) [DEQ and USEPA, 1995; DEQ, 2017].
- Hydrogen ion concentration (pH) must be maintained within the range of 6.5 to 9.5.
- Except as permitted in MCA 75-5-318, no increase in naturally occurring turbidity is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

- No increase in naturally occurring temperature is allowed which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.
- No increases are allowed above naturally occurring concentrations of sediment or suspended sediment (except as permitted in MCA 75-5-318), and settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

The SSTOU ROD did not specify nutrient (i.e., nitrogen and phosphorus) standards for surface waters in the SSTOU. However, base numeric nutrient standards have been adopted by the Montana Board of Environmental Review and DEQ under rulemaking authority in MCA 75-5-301. Department Circular DEQ-12A [DEQ, 2014] specifies the nutrient standards for wadeable streams in the Middle Rockies Ecoregion, which includes Silver Bow Creek and tributaries in the SSTOU. The following nutrient standards apply to streams in the SSTOU between July 1 and September 30:

- Total phosphorus = 0.03 mg/L,
- Total nitrogen = 0.3 mg/L.

Additonally, Circular DEQ-7 [DEQ, 2017] specifies the following ALS for total ammonia which are applicable year-round[2]:

- Total ammonia acute ALS = 13.3 mg/L,
- Total ammonia chronic ALS = 3.97 mg/L.

In addition to the primary COCs, non-COCs and nutrients, measured surface water parameters included common cations and anions, total suspended sediment and field parameters including streamflow, water temperature, pH, conductivity, and turbidity. These additional data support the interpretation of water quality monitoring results and are needed to assess impairments to beneficial uses.

[2] The total ammonia acute ALS is inversely related to pH and water temperature (i.e., as pH and temperature increases the acute ALS decreases) and is also dependent on whether or not early life stage salmonids are present. The given standard assumes pH of 7.5, temperature of 16 C, and early life stage salmonids are present. Typically, pH in the SSTOU is at least 7.5 and salmonids are known to be present in the SSTOU [RESPEC, 2017a; 2018a]. The chronic ALS for ammonia is not influenced by the presence or absence of early life stage salmonids.

Table 1-1. Comparison of the Montana surface water standards in July 1994 (effective at the time of issuance of the Streamside Tailings Operable Unit Record of Decision) and May 2017 (effective since 2017) for each contaminant of concern.

Contaminant of concern[3]	Chronic aquatic life standard (mg/L)		Human health surface water standard (mg/L)	
	MDHES [1994]	DEQ [2017]	MDHES [1994]	DEQ [2017]
Arsenic	0.190	0.150	0.018	0.010
Cadmium	0.00113	0.00079	0.00500	0.00500
Copper	0.012	0.009	1.000	1.300
Lead[4]	0.0032	0.0032	0.0150	0.0150
Mercury	0.000012	0.000910	0.000140	0.000050
Zinc	0.10599	0.11982	5.00000	2.00000

Gray cells identify the most restrictive standard.

Table 1-2. Montana surface water standards for metals that are not contaminants of concern in the Streamside Tailings Operable Unit [DEQ, 2017].

Metal[5,6]	Aquatic life standard (mg/L)		Human health surface water standard (mg/L)
	Acute	Chronic	
Aluminum	0.750	0.087	-
Antimony	-	-	0.0056
Barium	-	-	1
Beryllium	-	-	0.004
Boron	-	-	-
Chromium	1.803	0.086	0.1
Cobalt	-	-	-
Iron	-	1.00	-
Manganese	-	-	-
Molybdenum	-	-	-
Nickel	0.469	0.052	0.100
Selenium	0.020	0.005	0.050
Silver	0.0041	-	0.1000

[3] The aquatic life standards for cadmium, copper, lead, and zinc vary in relation to water hardness. The values displayed in this table correspond to a water hardness of 100 mg/L as $CaCO_3$.

[4] The chronic aquatic life standard is most restrictive for lead until hardness exceeds 338 mg/L as $CaCO_3$. At hardness more than 338 mg/L as $CaCO_3$, the human health surface water standard becomes more restrictive. Lead standards were the same in MDHES [1994] and DEQ [2017].

[5] The aquatic life standards for chromium, nickel and silver vary in relation to water hardness. The values displayed in this table correspond to a water hardness of 100 mg/L as $CaCO_3$.

[6] The aquatic life standards in this table are based on total recoverable concentrations for all metals in this table except aluminum which is based on dissolved concentrations.

Metal[5,6]	Aquatic life standard (mg/L)		Human health surface water standard (mg/L)
	Acute	Chronic	
Uranium	-	-	0.03
Vanadium	-	-	-

Gray cells identify the most restrictive standard.

1.3 METHODS

The purpose of the surface water monitoring program is to collect data describing the temporal and spatial variation of metal and nutrient concentrations, and other physical properties of surface water in the SSTOU. These data provide a long-term record of environmental conditions in the SSTOU. As of 2018, 19 years of SSTOU surface water data (2000-2018) have been collected under this monitoring program. This long-term record provides a dataset to evaluate the effect of remediation on environmental conditions in the SSTOU over time.

An overview of surface water monitoring methods is provided here, and more detail can be found in the project sampling and analysis plan (SAP) [RESPEC, 2018b]. Changes to the surface water monitoring program have occurred over time and a record of these changes is provided in the SAP [RESPEC, 2018b]. The program attempts to adhere to monitoring requirements specified in the SSTOU ROD (Table 1-3). To comply with these requirements, surface water sampling sites were added to the monitoring network in 2013 (Sites SS-13 and SS-16B) and 2014 (Site SS-19) (Figure 1-2; Table 1-4). All of the sites required by the SSTOU ROD (Table 1-3) have been included in the surface water monitoring program since 2014.

Table 1-3. Minimum post-remedy monitoring requirements for surface water monitoring as Specified in the Record of Decision for the Streamside Tailings Operable Unit [DEQ and USEPA, 1995].

Locations	Analytical Parameters	Analytes
SS-07, SS-10, SS-13, SS-14, SS-15, SS-16B, SS-17, SS-19	Metals (total recoverable and dissolved)	Arsenic, cadmium, copper, lead, mercury, zinc
	Common ions	Calcium, magnesium, sodium, potassium, chloride, sulfate
	Nutrients	Nitrate plus nitrite nitrogen, phosphorus
	Physical properties	Temperature, acidity (pH), oxidation-reduction potential (Eh), conductance, dissolved oxygen concentration

1.3.1 Monitoring Locations

In 2018, major remediation in the SSTOU was completed in all subareas. Minor remedial actions were in progress in portions of Subarea 2 (Figure 1-2). Monitoring occurred at 16 sites, 12 of which were located within the SSTOU. Locations of some sampling sites were selected based

on SSTOU ROD requirements (Table 1-3). Other sites were selected to provide greater spatial resolution or to assess the influence of specific surface water inputs. Sites located outside the SSTOU were sampled to describe surface water conditions in the stream immediately upstream from the SSTOU (Sites SS-01, SS-05A, and SS-06G) or in a major tributary (German Gulch; Site SS-15G) entering Silver Bow Creek within the SSTOU (Figure 1-2).

Monitoring at Site SS-10B (Silver Bow Creek below Sand Creek) was discontinued in 2017. Site SS-10B had been sampled along with a paired site (Site SS-10A; Silver Bow Creek above Sand Creek) to elicit water chemistry contributions from Sand Creek. However, since 2010, Site SS-10B showed no significant differences in constituent concentrations from Site SS-10A and was providing no additional insight to understanding of contaminant sources in the SSTOU.

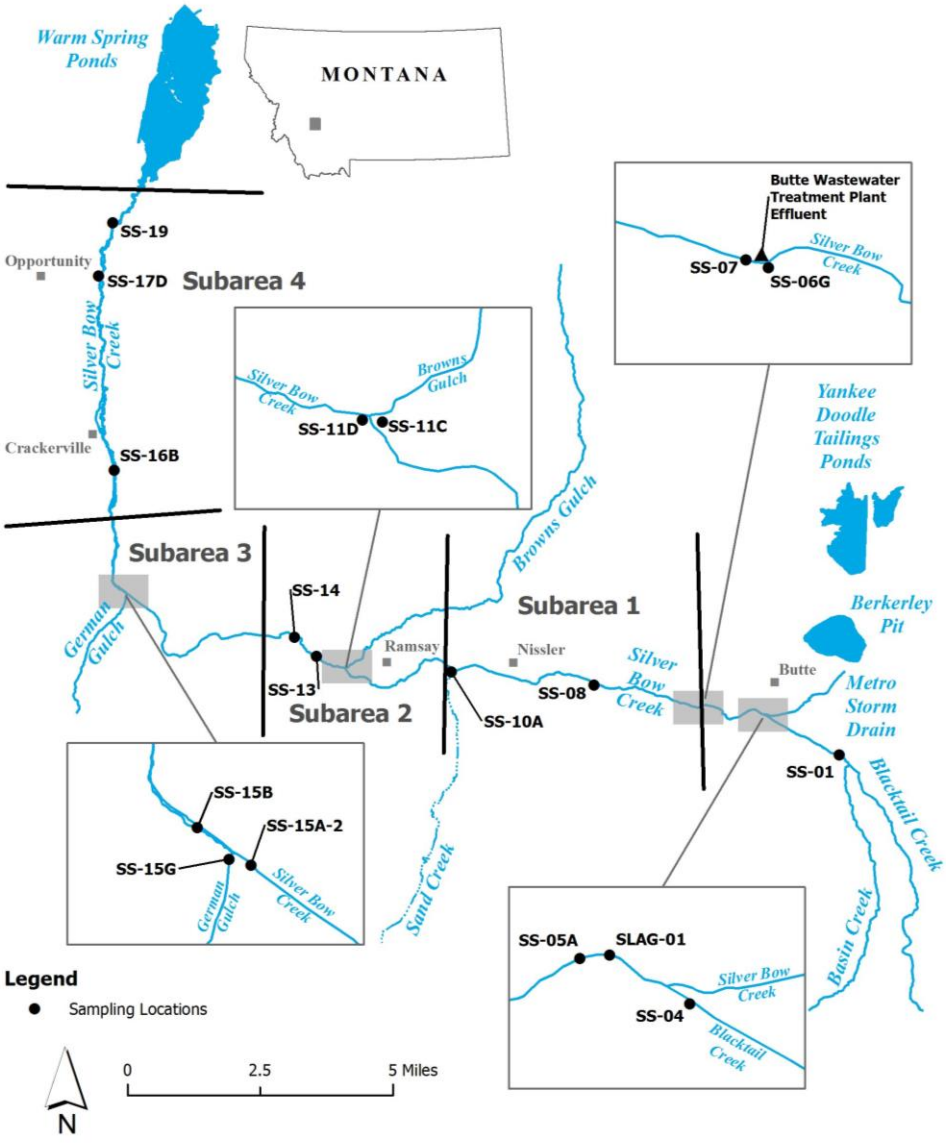

Figure 1-2. Surface water and sediment sampling locations in Streamside Tailings Operable Unit.

Table 1-4. Surface water sampling locations in the Streamside Tailings Operable Unit.

Site ID	Site Location	Location (GPS coordinates, NAD 83)	
		Latitude	Longitude
SS-01*	Blacktail Creek at Father Sheehan Park	45.98532	-112.50772
SS-05A*	Silver Bow Creek above Butte Reduction Works	45.99653	-112.54343
SS-06G*	Silver Bow Creek above Butte WWTP	45.99648	-112.56316
SS-07[7]	Silver Bow Creek below Butte WWTP	45.99679	-112.56470
SS-08	Silver Bow Creek at Rocker	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	46.00375	-112.66084
SS-11C	Silver Bow Creek above Browns Gulch	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	46.00342	-112.70304
SS-13	Silver Bow Creek in Reach L	46.00647	-112.71394
SS-14	Silver Bow Creek at Miles Crossing	46.01142	-112.72270
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	46.02170	-112.78969
SS-15B	Silver Bow Creek below German Gulch	46.02263	-112.79175
SS-15G*	German Gulch near confluence	46.02170	-112.79029
SS-16B	Silver Bow Creek in Reach P near Fairmont	46.05494	-112.79611
SS-17D[8]	Silver Bow Creek below Stewart Street at Opportunity	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	46.12247	-112.80077

* Not located within the Streamside Tailings Operable Unit.

1.3.2 Monitoring Schedule

Monitoring events were scheduled quarterly to describe seasonal variation in water chemistry within the SSTOU. One monitoring event occurred during each calendar quarter. Quarterly monitoring events occurred near the end of each quarter. First quarter (Q1) monitoring occurred from March 21–22 prior to spring snowmelt runoff. Second quarter (Q2) monitoring occurred from June 6-7 near the peak of the spring snowmelt runoff period. Third quarter (Q3) monitoring occurred from September 12-13 during low streamflow conditions. Fourth quarter (Q4) monitoring occurred from November 28-29 during late fall.

1.3.3 Monitoring Parameters

Streamflows were measured at all surface water sampling sites at the time when sampling occurred or were determined from USGS streamflow gages that were co-located with the sampling sites at two sites. All USGS streamflow data included in this report may be "provisional" because at the time this report was completed "approved" USGS data may not have been available. At

[7] Co-located with USGS streamflow gage 12323250.

[8] Co-located with USGS streamflow gage 12323600.

sites without co-located USGS gage stations, streamflows were measured manually. Laboratory analysis of analyte concentrations in samples was provided by Energy Laboratories (Helena, Montana). Water samples were analyzed for metal concentrations, nutrient concentrations, and other chemical and physical properties (Table 1-5).

Table 1-5. Sampling parameters and analytes for surface water monitoring of the Streamside Tailings Operable Unit.

Parameter	Analytes
Concentrations of metal contaminants of concern (total recoverable and dissolved)	Arsenic, cadmium, copper, lead, mercury, zinc
Concentrations of other metals (total recoverable and dissolved)	Aluminum, antimony, barium, beryllium, boron, cobalt, chromium, iron, manganese, molybdenum, nickel, selenium, silver, uranium, vanadium
Nutrient concentrations	Nitrogen (total nitrogen, nitrate plus nitrite, ammonia), phosphorus (total)
Common ion concentrations	Sulfate, total alkalinity, bicarbonate alkalinity, calcium, magnesium, sodium, potassium, chloride, and sulfate
Other physical properties	Total suspended sediment concentration, water hardness, water temperature, pH, specific conductivity, dissolved oxygen (DO), turbidity

1.3.4 Sample Collection and Analysis

Sample collection, analysis, and quality assurance procedures are described in the program sampling and analysis plan [RESPEC, 2018b] and quality assurance project plan [RESPEC, 2014]. Methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Field sampling procedures were in accordance with DEQ [2012a] and followed "clean hands/dirty hands" procedures as described in USGS [2006][9]. Composited surface water samples were collected using width- and depth-integration according to methods described in USGS [2006]. Field parameters (water temperature, pH, dissolved oxygen concentration, and conductivity) were measured during each monitoring event with a field multimeter (YSI Professional Plus or YSI 556). Turbidity was measured with a field turbidity meter (Hach Model 2100P Portable Turbidimeter). Streamflows were measured using a portable electromagnetic streamflow meter (Marsh-McBirney Flo-Mate 2000). Calibration methods for field meters, data recording and handling methods, and quality assurance and quality control procedures are described in the program sampling and analysis plan [RESPEC, 2018b]. Samples were analyzed

[9] We deviated from the USGS [2006] protocols to minimize sample contamination [described in Section 4.0.2 of USGS, 2006] in two regards. First, we did not collect samples sequentially in the order of least to greatest potential for contamination. Second, samples were processed outside sampling vehicles, rather than within an enclosed space. Also note that we did not follow all "clean hands/dirty hands" protocols of Method 1669 [USEPA, 1996] or the low-level (i.e., part-per-trillion) protocols of the USGS [Lewis and Brigham, 2004].

by Energy Laboratories (Helena, Montana). Laboratory analysis procedures for each analyte are presented in Table 1-6.

Table 1-6. Analytes, analytical methods, and reporting limits for surface water samples in the Streamside Tailings Operable Unit.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[10]	Holding Time (days)	Bottle	Preservative
Water Samples - Physical Properties and Inorganics					
Solids, Total Suspended (at 105 C)	A 2540 D	1	7	1 L HDPE	
Alkalinity, Total (as $CaCO_3$)	A 2320 B	4	14	500 mL HDPE	4 ± 2 C
Alkalinity, Bicarbonate (as HCO_3)	A 2320 B	4	14		
Chloride	EPA 300.0	1	28		
Sulfate	EPA 300.0	1	28		
Hardness (as $CaCO_3$)	A 2340 B	1	180		
Water Samples – Nutrients					
Nitrogen, Ammonia (as N)	EPA 350.1	0.05	28	250 mL HDPE	4 ± 2 C
Nitrogen, Nitrate-Nitrite (as N)	EPA 353.2	0.02			H_2SO_4 to pH <2, 4 ± 2 C
Nitrogen, Total	A 4500 N-C	0.05	30		4 ± 2 C
Phosphorus, Total	EPA 365.1	0.003	28		H_2SO_4 to pH <2, 4 ± 2 C
Water Samples - Dissolved Metals (0.45 µm filtered)					
Aluminum	EPA 200.8	0.009	180	250 mL HDPE	HNO_3 to pH <2
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.8	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.8	1			
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.8	0.02			
Lead	EPA 200.8	0.0003			
Magnesium	EPA 200.8	1			
Manganese	EPA 200.8	0.001			
Molybdenum	EPA 200.8	0.005			

[10] Requested reporting limits are either those required by DEQ [2017] or DEQ [2014] (for nutrients), or the lowest reporting limit previously provided by the analytical laboratory, whichever is lower.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[10]	Holding Time (days)	Bottle	Preservative
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.8	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002			
Sodium	EPA 200.8	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			
Mercury	EPA 245.1	0.000005	28		
Water Samples - Total Recoverable Metals					
Total Recoverable Metals Digestion	EPA 200.2	-	-	-	-
Aluminum	EPA 200.8	0.009			
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.8	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.8	1	180		
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.8	0.02			
Lead	EPA 200.8	0.0003		250 mL HDPE	HNO_3 to pH <2
Magnesium	EPA 200.8	1			
Manganese	EPA 200.8	0.001			
Mercury	EPA 245.1	0.000005	28		
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.8	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002	180		
Sodium	EPA 200.8	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			

1.3.5 Data Analysis

This report primarily presents a summary of surface water data collected in the SSTOU monitoring program in 2018. For certain important constituents (e.g., nutrient concentrations and COC concentrations), longer-term results are presented to place 2018 results in context with prior annual monitoring data.

Data analysis includes description of spatial trends (among sample sites during the same sample period) and temporal (quarterly and annual) trends in constituent concentrations. Data in the spatial graphs are presented longitudinally from upstream to downstream with symbols representing each sample event (e.g. Q1, Q2, Q3, Q4). Symbols are connected with a solid line for Silver Bow Creek mainstem sites with the exception of the sites above and below German Gulch (SS-15A and SS15B); these sites are connected with a dashed line to help distinguish the influence of the German Gulch tributary (SS-15G), For constituents of primary interest (e.g., total recoverable COC concentrations), longer-term (since 2010) temporal graphs are included to provide context for the recent results and to evaluate variability in concentrations through time.

In addition, for COCs with performance goal targets, or for constituents which have state-specified standards, sample concentrations are compared to those standards to evaluate exceedances. Evaluation of some ALS standards requires an assumption that the measured analyte concentrations are consistent over time. For example, the chronic ALS is typically based on 96-hour mean concentrations and the acute ALSs are typically based on 1-hour mean concentrations [DEQ, 2017]. However, in this monitoring program, analyte concentrations are measured at a specific point in time and mean concentrations over time are unknown. Therefore, all assessments of ALS exceedances assume that the measured concentration was representative of the mean concentration over the necessary time period.

Surface water samples were analyzed for COC and non-COC metal and metalloid concentrations. The SSTOU ROD specifies that monitoring should assess if non-COC metals have concentrations exceeding performance goals [DEQ and USEPA, 1995]. We have interpreted the performance goals for non-COC analytes to be the most restrictive of the most current Circular DEQ-7 standards [DEQ, 2017].

1.3.6 Data Validation

Data quality objectives were established in the SSTOU quality assurance project plan (QAPP) for data representativeness, comparability, completeness, sensitivity, precision, bias, and accuracy [RESPEC, 2014]. Methods for field and laboratory quality assurance and quality control procedures are described in detail in the QAPP. A completed quality assurance and quality control checklist, summary tables of field duplicate and field blank results, and assessments of data quality objectives are included in Appendix A.

1.4 RESULTS

1.4.1 Streamflow

In comparison to the long-term median for the period of record at each site monitored by the U.S. Geological Survey, streamflows in 2018 for Silver Bow Creek and Blacktail Creek were well above average from late March through the remainder of the year (Figure 1-3; Figure 1-4; Figure 1-5). Streamflows during spring runoff were substantially higher than normal and the duration of the runoff was far longer than normal in Silver Bow Creek and Blacktail Creek (Figure 1-3; Figure 1-4; Figure 1-5). Due to the strong, prolonged runoff, summer and fall streamflows were also well above normal (Figure 1-3; Figure 1-4; Figure 1-5).

Longitudinally (i.e., from upstream to downstream sites) streamflows generally increased gradually between Blacktail Creek at Father Sheehan Park (Site SS-01) and Silver Bow Creek at Frontage Road (Site SS-19) (Figure 1-6). During Q2, streamflows increased more rapidly downstream from Browns Gulch (between Sites SS-11C and SS-11D) (Figure 1-6). Downstream from German Gulch, more pronounced streamflow increases in Q1 and Q2 could not be discerned directly from the data because measurements were not made due to hazardous high water or ice.

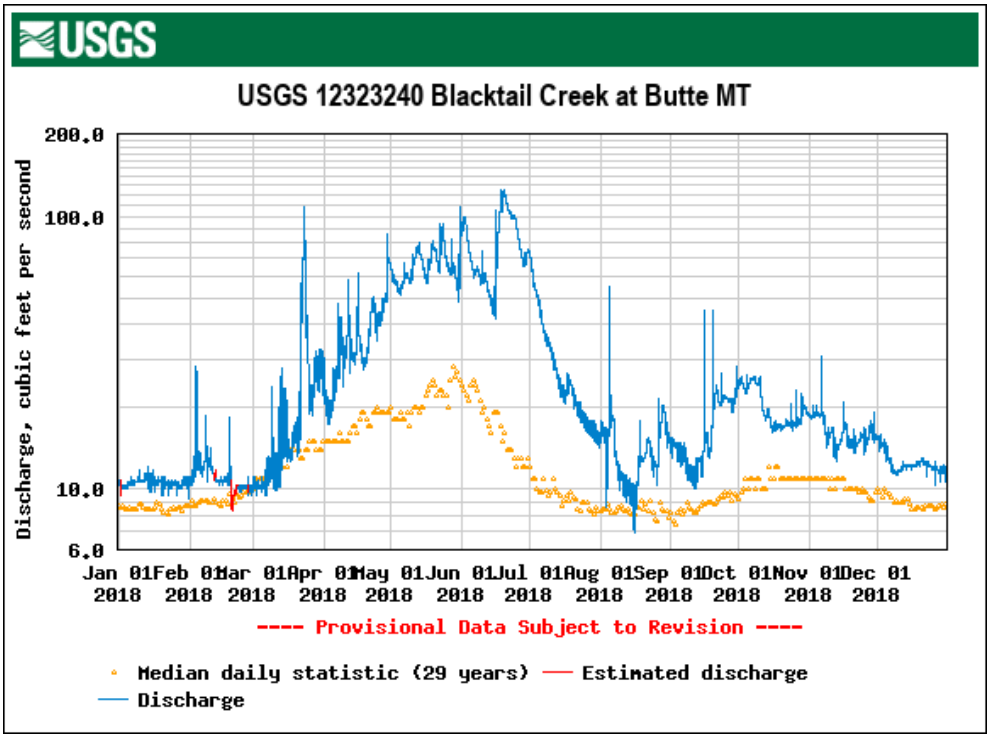

Figure 1-3. Annual hydrograph for Blacktail Creek at Butte, 2018.

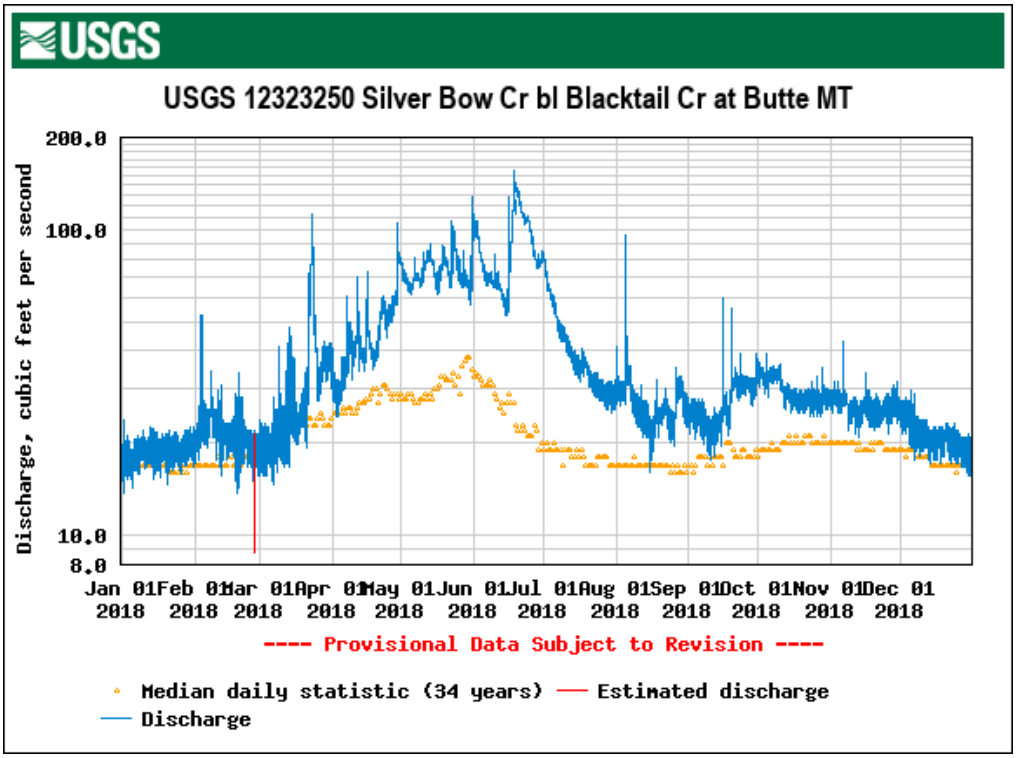

Figure 1-4. Annual hydrograph for Silver Bow Creek below Blacktail Creek at Butte, 2018.

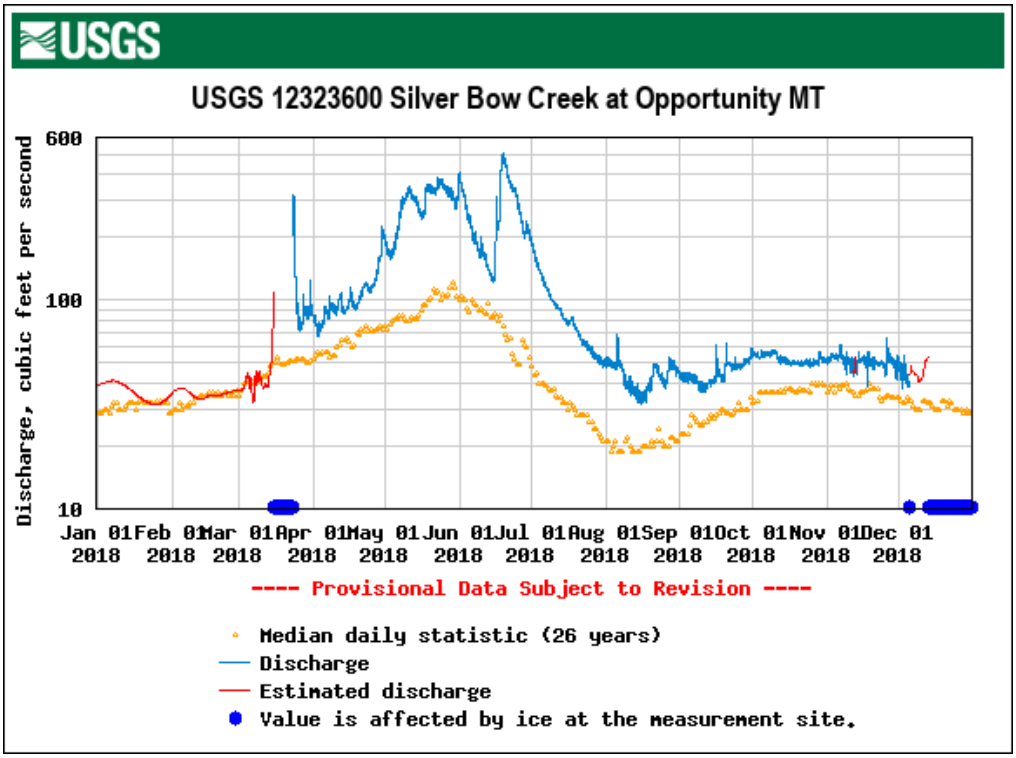

Figure 1-5. Annual hydrograph for Silver Bow Creek at Opportunity, 2018.

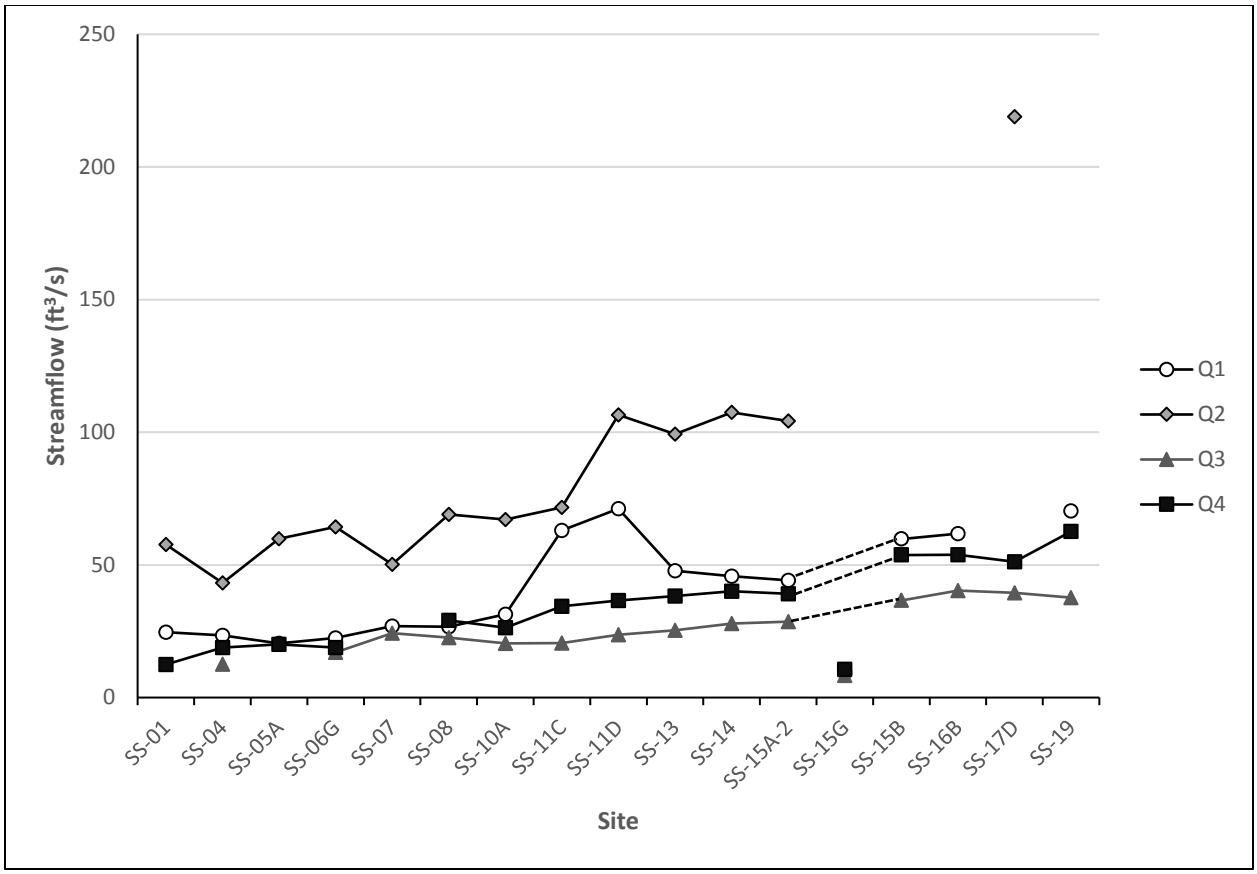

Figure 1-6. Streamflows at Streamside Tailings Operable Unit sample sites, 2018.[11]

[11] All streamflow measurements from SS-04, SS-07, and SS-17D are provisional data from U.S. Geological Survey [USGS, 2019]. Streamflows were not measure in Q3 at SS-01 and SS-05A due to instrument failure. Streamflows were not measured in Q2 at SS-15G, SS-15B, SS-16B, or SS-19 due to hazardous conditions related to high water.

1.4.2 Field Parameters

1.4.2.1 Water Temperature

Water temperatures in the SSTOU in 2018 were as expected for each quarterly monitoring event. Quarterly temperature ranges were: 0.4-7.0 degrees Celsius (C; Q1), 8.5-17.7 C (Q2), 9.5-14.7 C (Q3), and 1.5-6.4 C (Q4) (Figure 1-7).

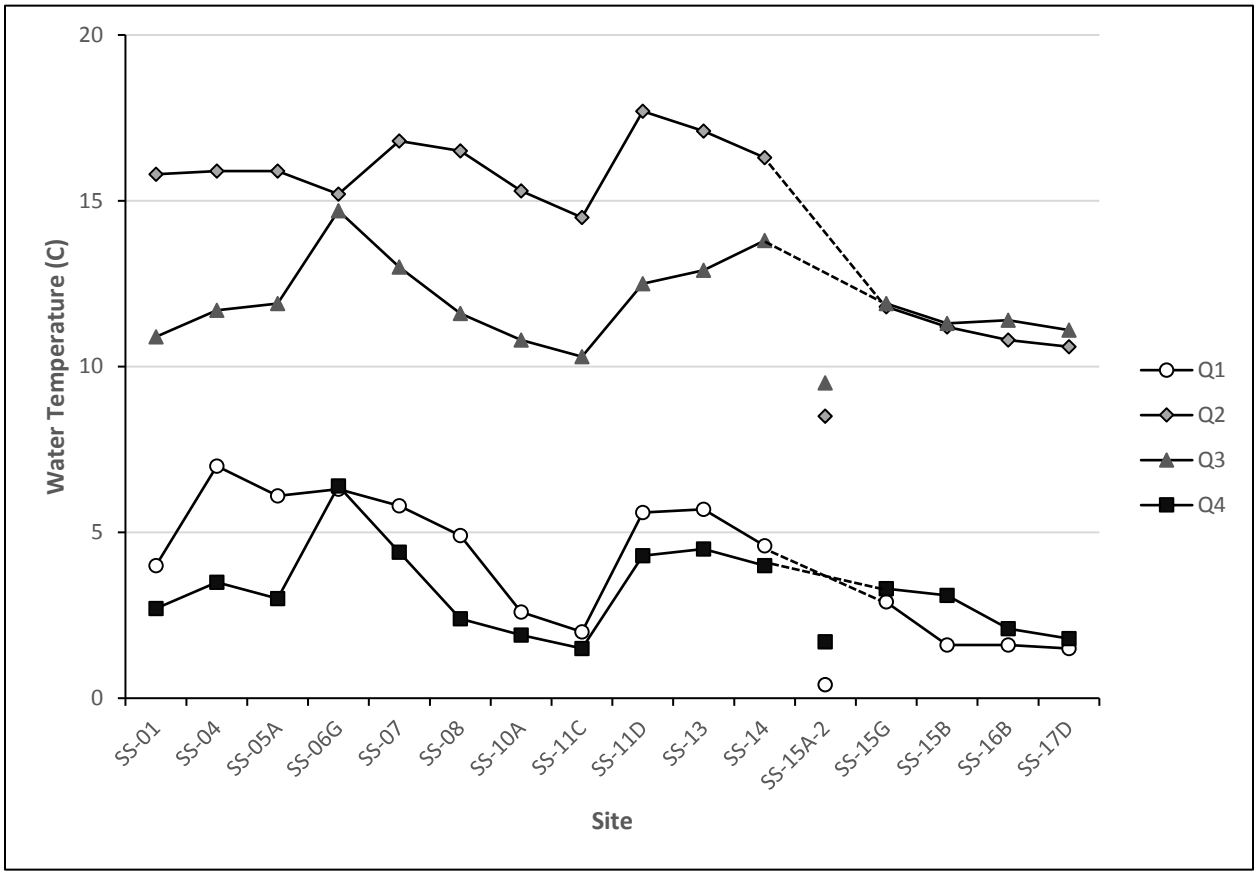

Figure 1-7. Water temperatures at Streamside Tailings Operable Unit sample sites, 2018.

1.4.2.2 pH

All pH measurements in the SSTOU in 2018 were within the range designated for beneficial uses of I-class streams (6.5-9.5). Quarterly pH ranges were: 7.4-8.4 (Q1), 7.2-7.9 (Q2), 7.5-8.8 (Q3), and 7.1-8.0 (Q4) (Figure 1-8).

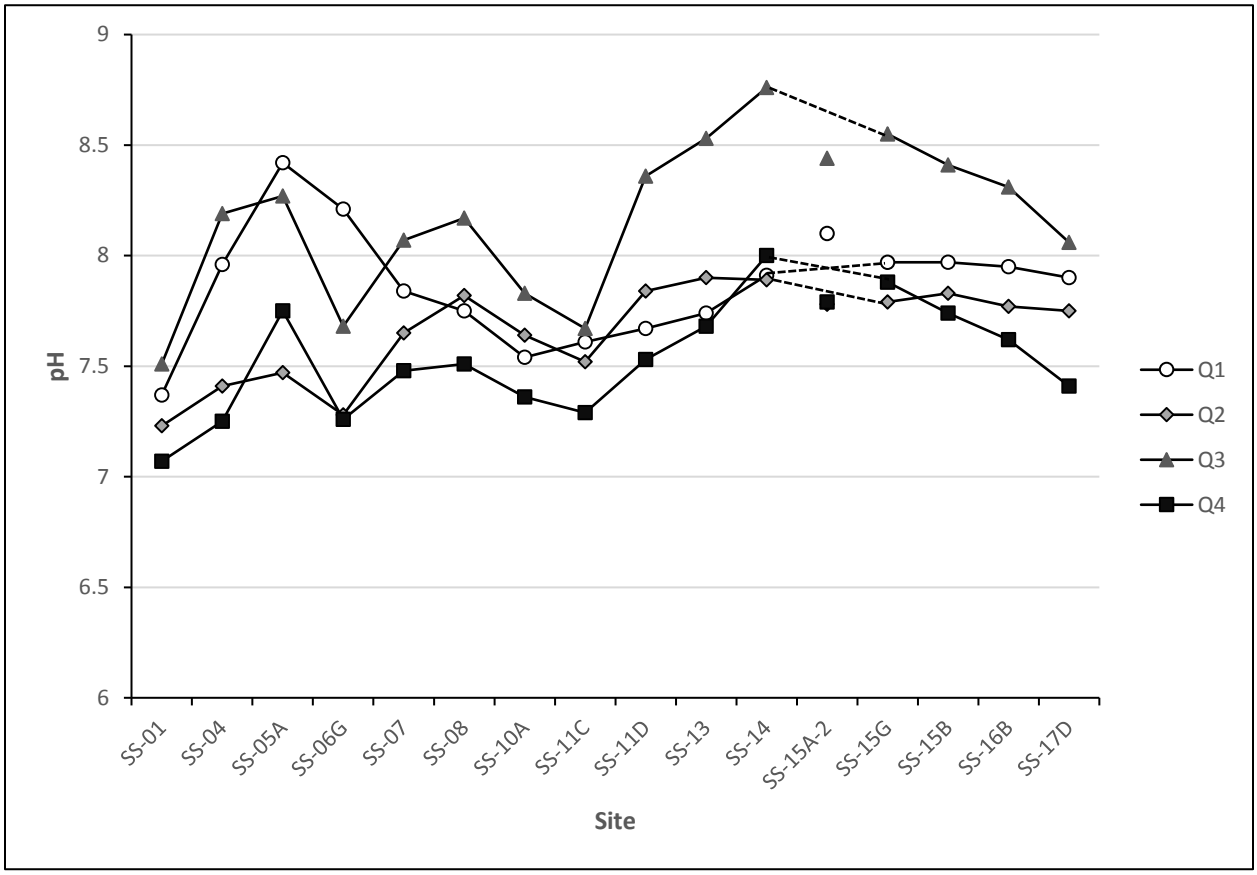

Figure 1-8. Surface water pH at Streamside Tailings Operable Unit sample sites, 2018.

1.4.2.3 Conductivity

Conductivity in the SSTOU in 2018 varied by sample period but demonstrated consistent longitudinal patterns. Conductivity was relatively high in Q1 and Q3 and low in Q2 (Figure 1-9). Generally, conductivity in Blacktail Creek and Silver Bow Creek increased rapidly between Father Sheehan Park (Site SS-01) and the Butte WWTP (Site SS-06G), and then remained relatively steady between Site SS-07 downstream to Frontage Road (Site SS-19) (Figure 1-9). The German Gulch input, which had low (no more than 227 microsiemens per centimeter [µS/cm]) conductivity during all quarters, slightly reduced conductivity in the mainstem at downstream sites during all quarters (Figure 1-9). In addition, there was variability in conductivity at several Subarea 2 Silver Bow Creek sites from Sand Creek to Miles Crossing (i.e., Sites SS-10A, SS-11C, SS-11D, SS-13, and SS-14). Quarterly conductivity ranges were: 197-543 µS/cm (Q1), 153-363 µS/cm (Q2), and 150-619 µS/cm (Q3) (Figure 1-9). Conductivity was not measured in Q4 due to instrument failure.

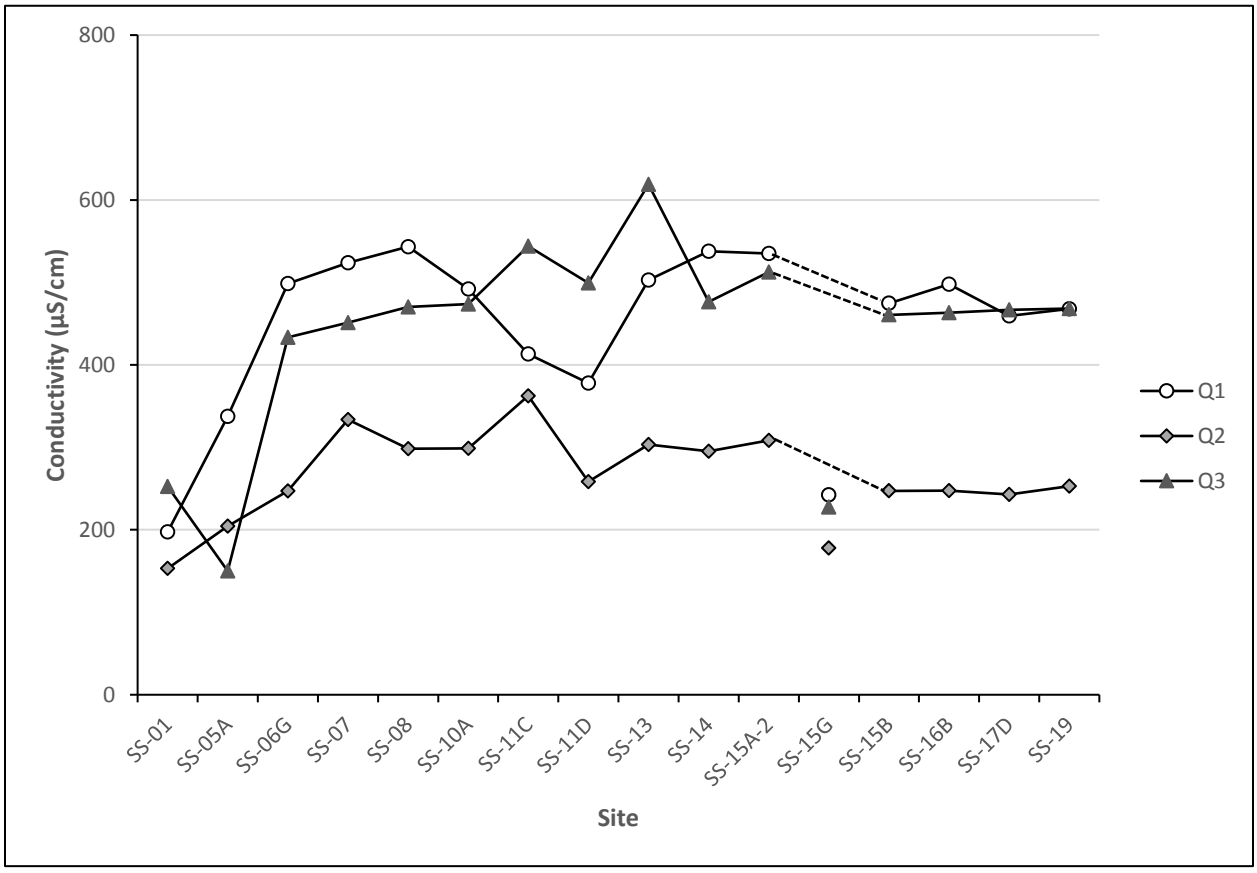

Figure 1-9. Conductivity at Streamside Tailings Operable Unit sample sites, 2018.

1.4.2.4 Dissolved Oxygen

All measured dissolved oxygen concentrations in the SSTOU in 2018 were above the applicable standards (i.e., 1-day minimum = 3 milligrams per liter [mg/L]) [DEQ and USEPA, 1995; DEQ, 2017]. The minimum dissolved oxygen concentration measured in 2018 was 7.8 mg/L (Figure 1-10).

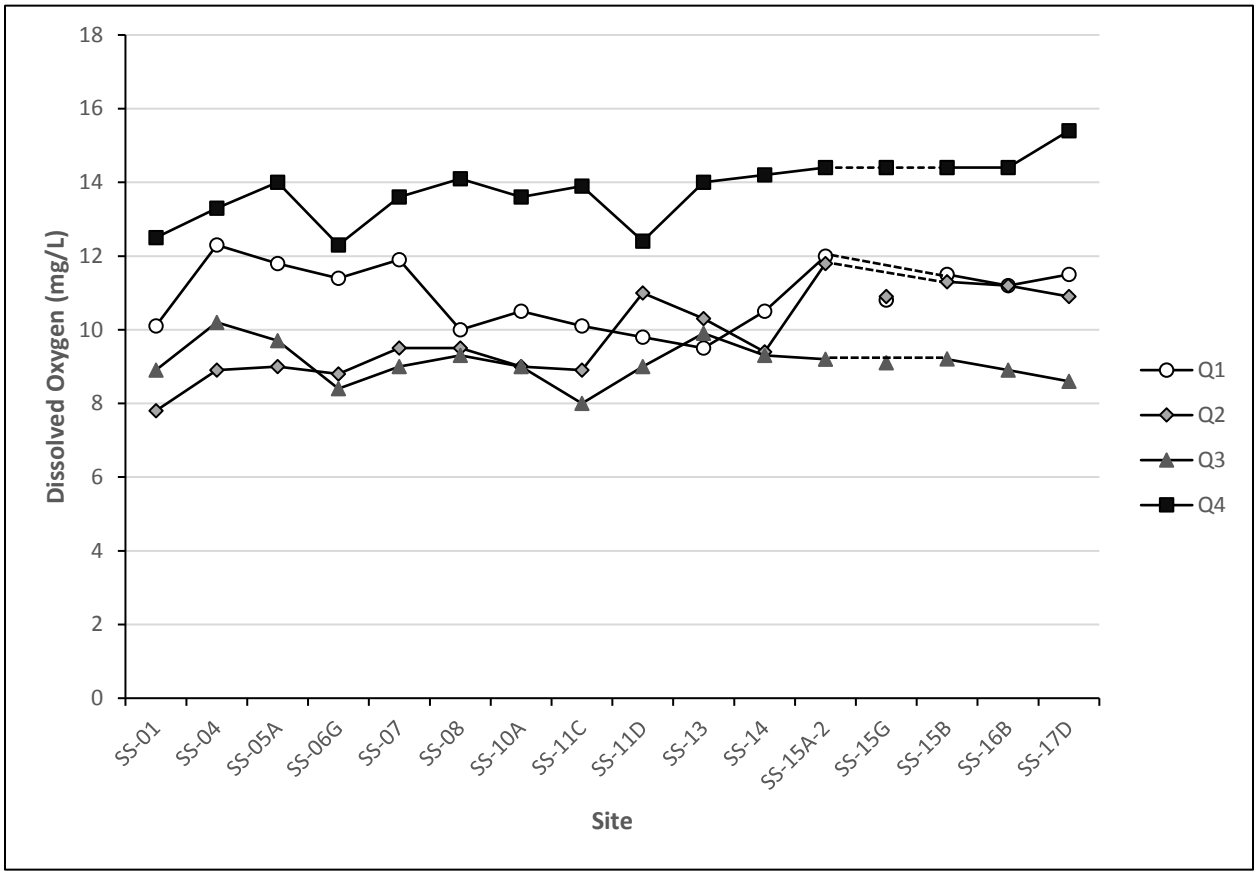

Figure 1-10. Dissolved oxygen concentrations at Streamside Tailings Operable Unit sample sites, 2018.

1.4.2.5 Turbidity

Turbidity was low to moderate (less than 24 Nephelometric Turbidity Units [NTU]) throughout the SSTOU in 2018 with the exception of Blacktail Creek at Father Sheehan Park (Site SS-01) in Q1 (Figure 1-11). Site SS-01 had high substantially higher turbidity (78 NTU) than any other site in 2018 which had turbidity less than 25 NTU (Figure 1-11). Site SS-01 also had particularly high turbidity in Q1 2017 [RESPEC, 2018a]. Turbidity was higher at most sites in Q1 and Q2 compared to Q3 and Q4 (Figure 1-11).

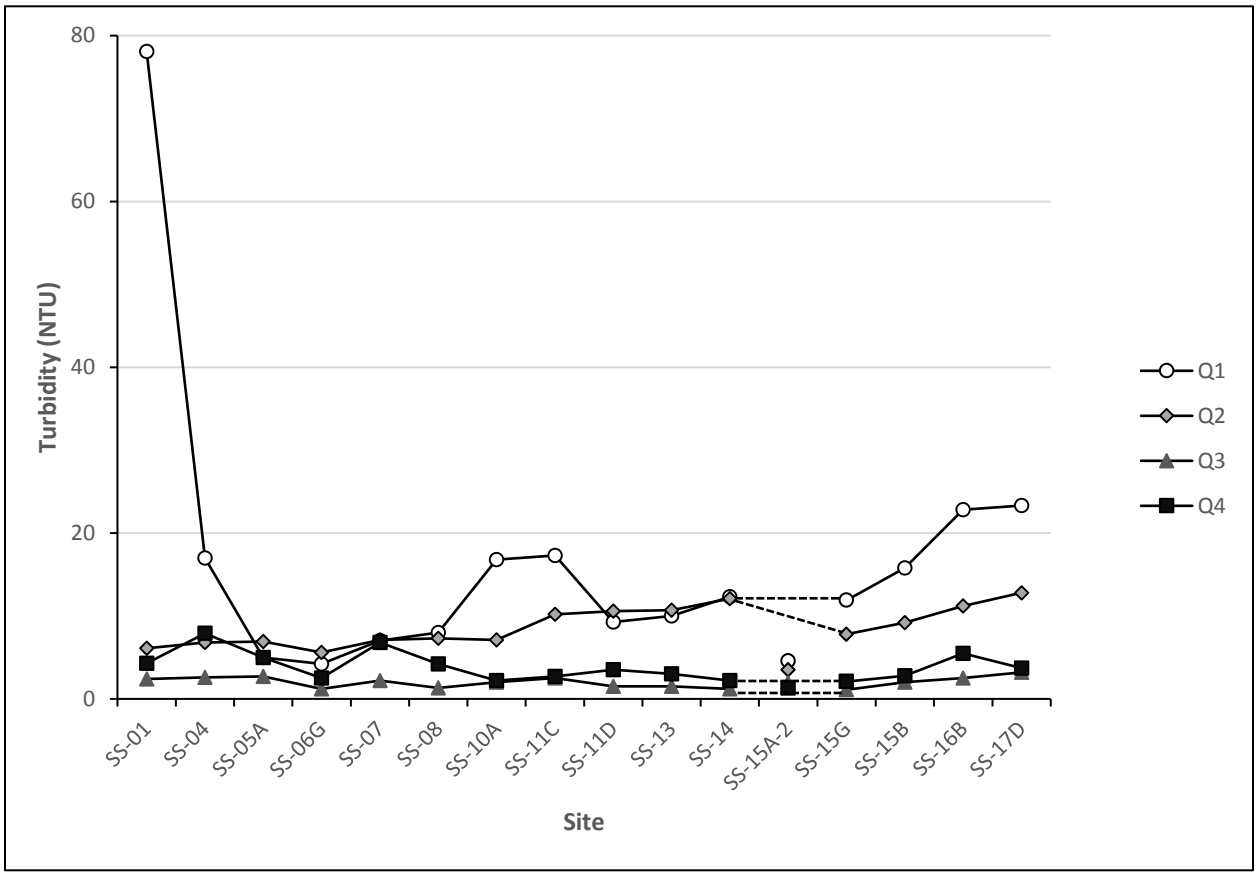

Figure 1-11. Turbidity at Streamside Tailings Operable Unit sample sites, 2018.

1.4.3 Total Suspended Sediment

Seasonal and spatial patterns for total suspended sediment concentrations were similar to turbidity patterns (Figure 1-11; Figure 1-12). As with turbidity, Q1 and Q2 total suspended sediment concentrations were elevated. In addition, concentrations were elevated at Site SS-16B in Q2.

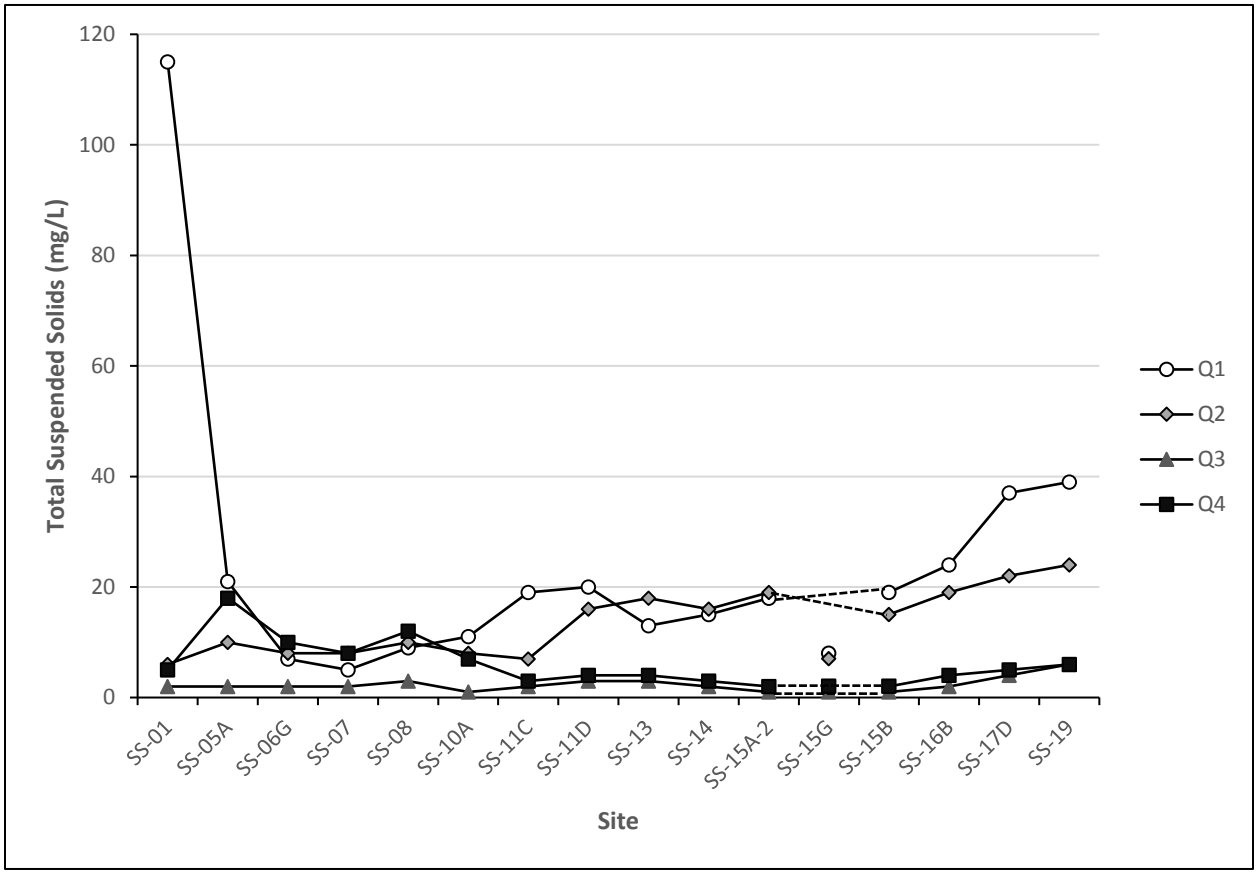

Figure 1-12. Total suspended sediment concentrations at Streamside Tailings Operable Unit sample sites, 2018.

1.4.4 Common Ions

Common ion concentrations were variable among sites but generally demonstrated consistent seasonal patterns. At each site, common ion concentrations were generally lowest during Q2 and highest in Q3 or Q4 (Figure 1-13; Figure 1-14; Figure 1-15; Figure 1-16; Figure 1-17; Figure 1-18; Figure 1-19; Figure 1-20; Figure 1-21). Most ion concentrations were lowest in Blacktail Creek at Father Sheehan Park (Site SS-01) or German Gulch (Site SS-15G) and highest at or near Silver Bow Creek above German Gulch (Site SS-15A-2).

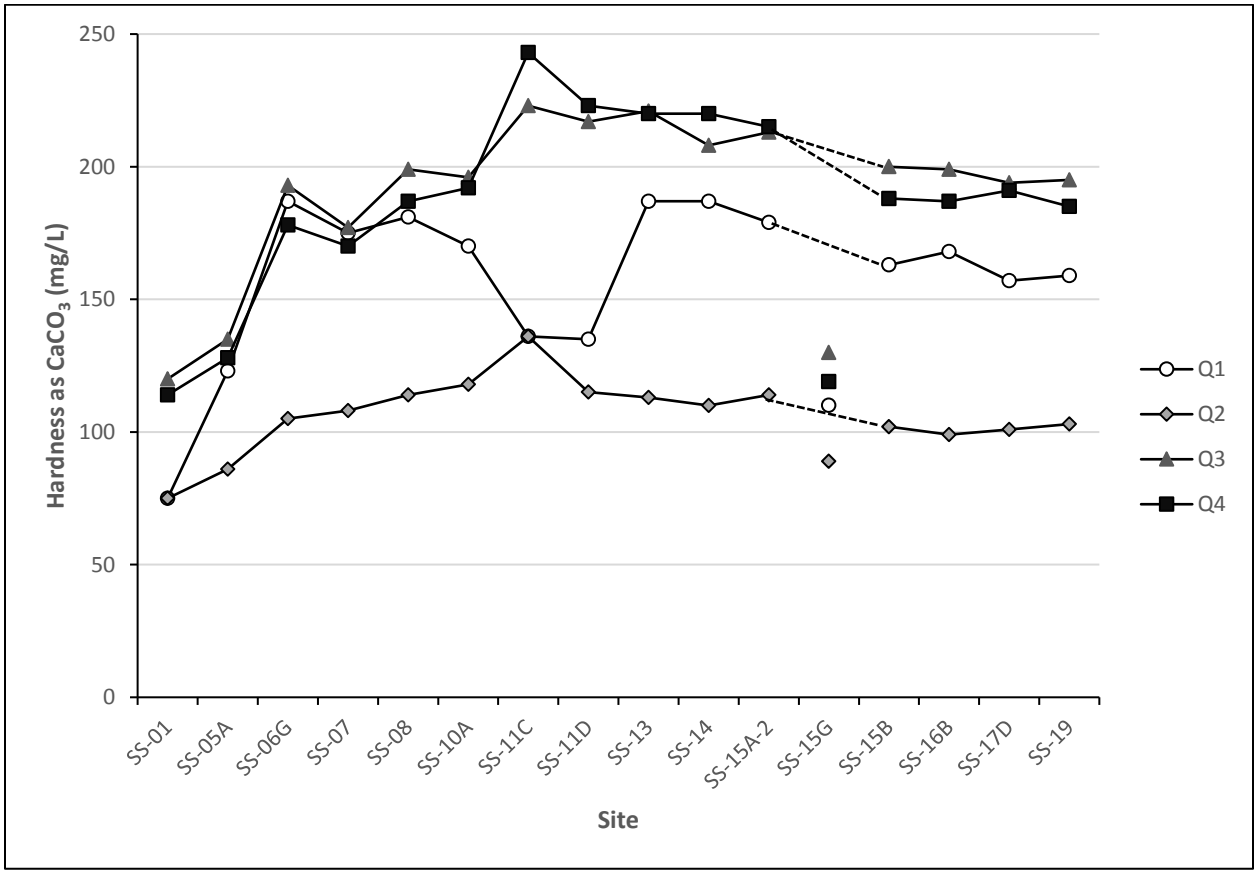

Figure 1-13. Water hardness at Streamside Tailings Operable Unit sample sites, 2018.

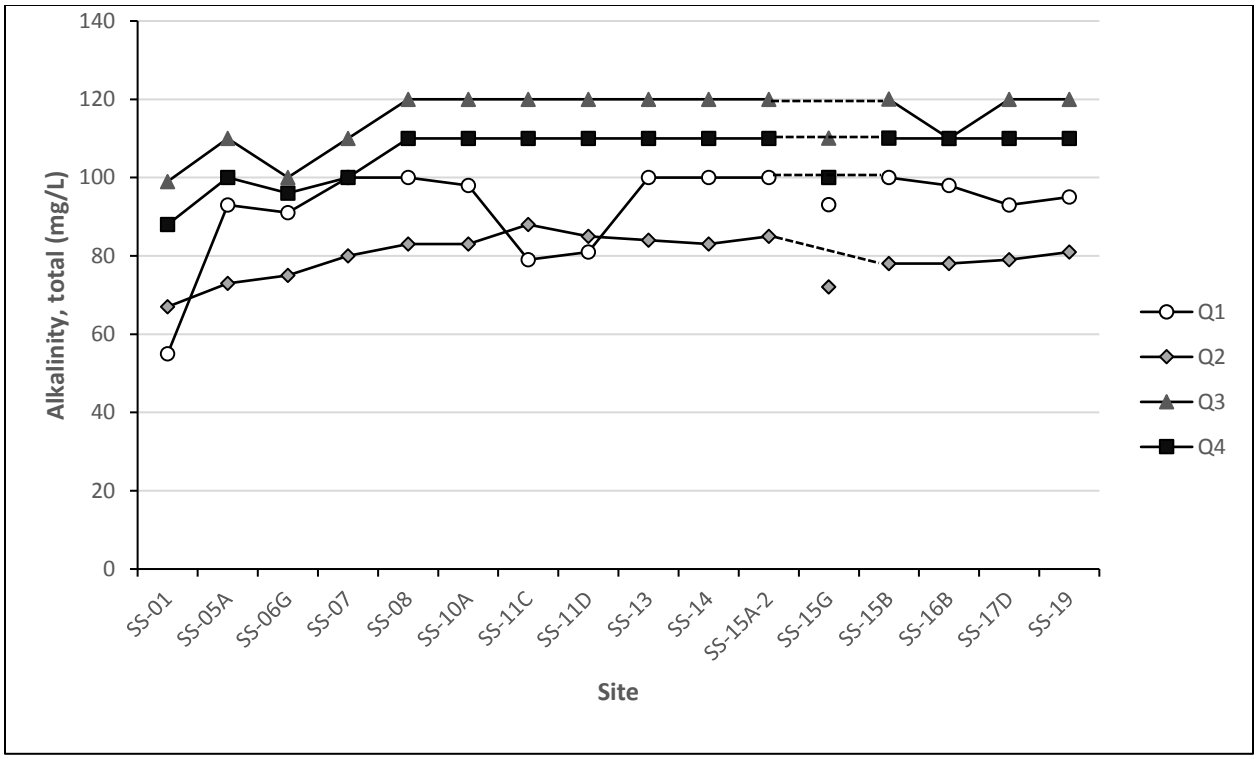

Figure 1-14. Total alkalinity at Streamside Tailings Operable Unit sample sites, 2018.

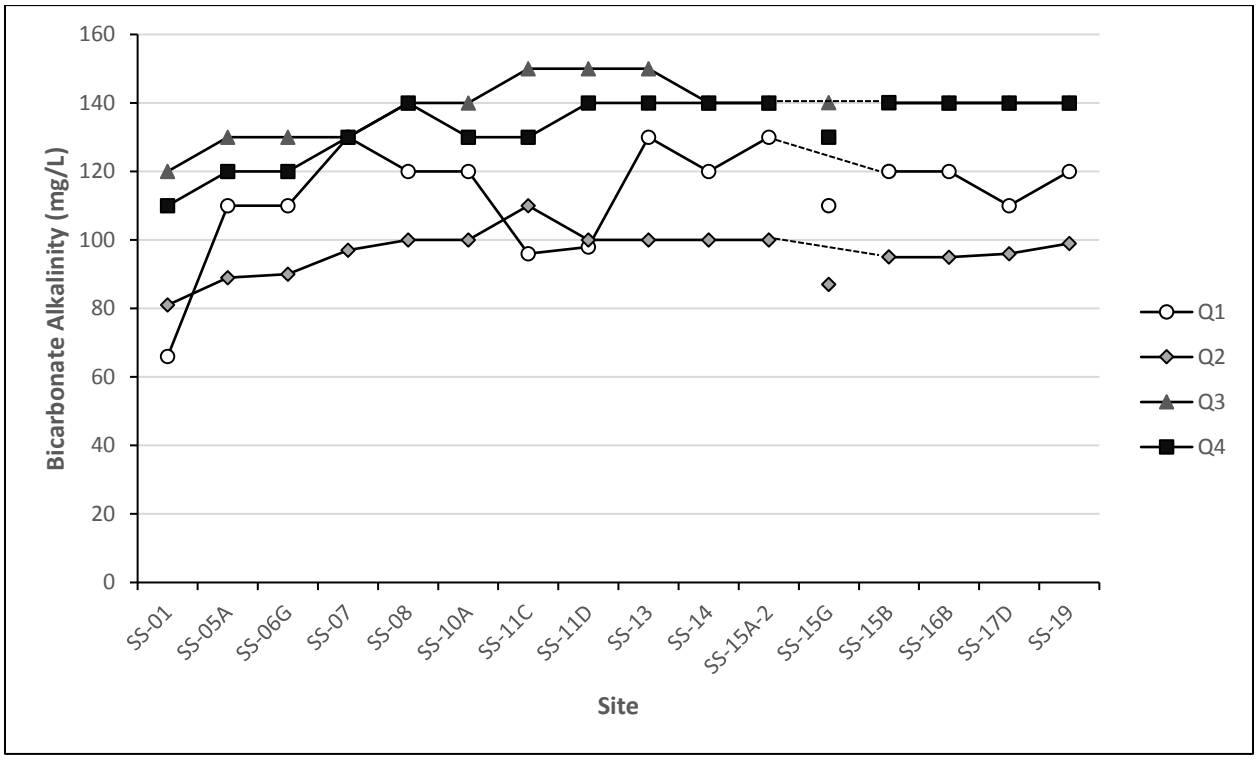

Figure 1-15. Bicarbonate alkalinity at Streamside Tailings Operable Unit sample sites, 2018.

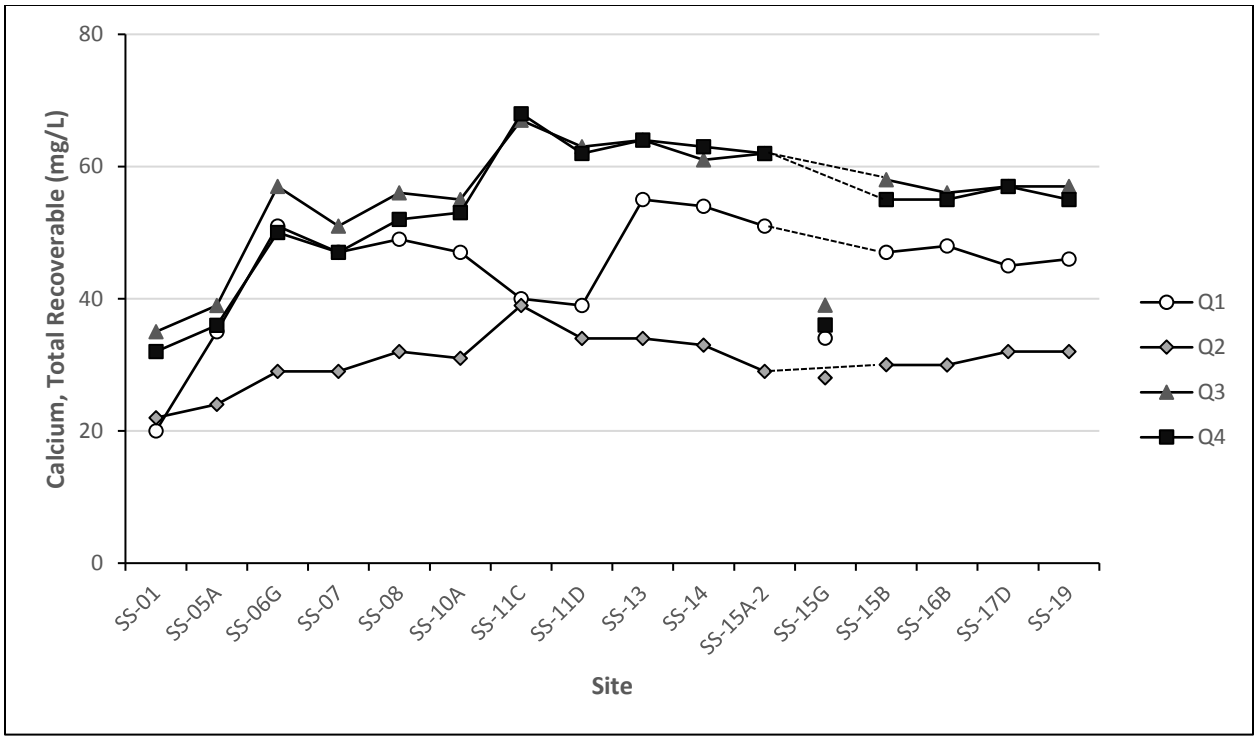

Figure 1-16. Calcium concentrations at Streamside Tailings Operable Unit sample sites, 2018.

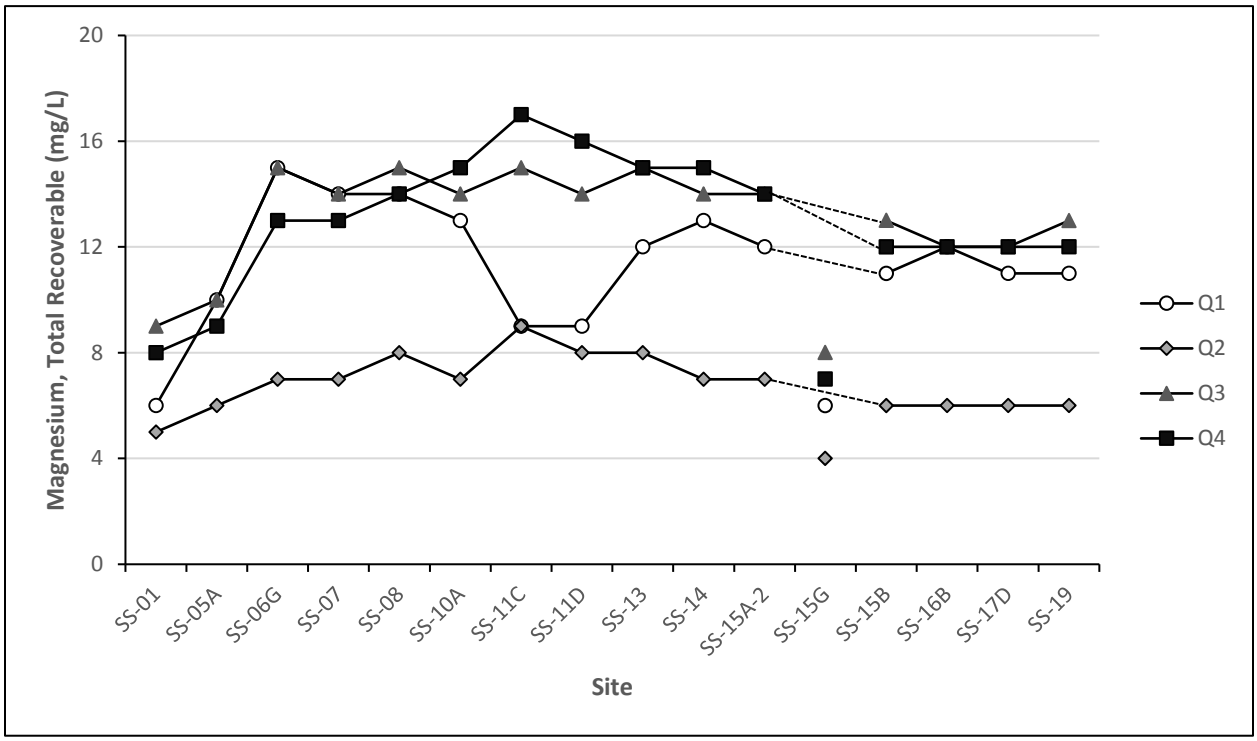

Figure 1-17. Magnesium concentrations at Streamside Tailings Operable Unit sample sites, 2018.

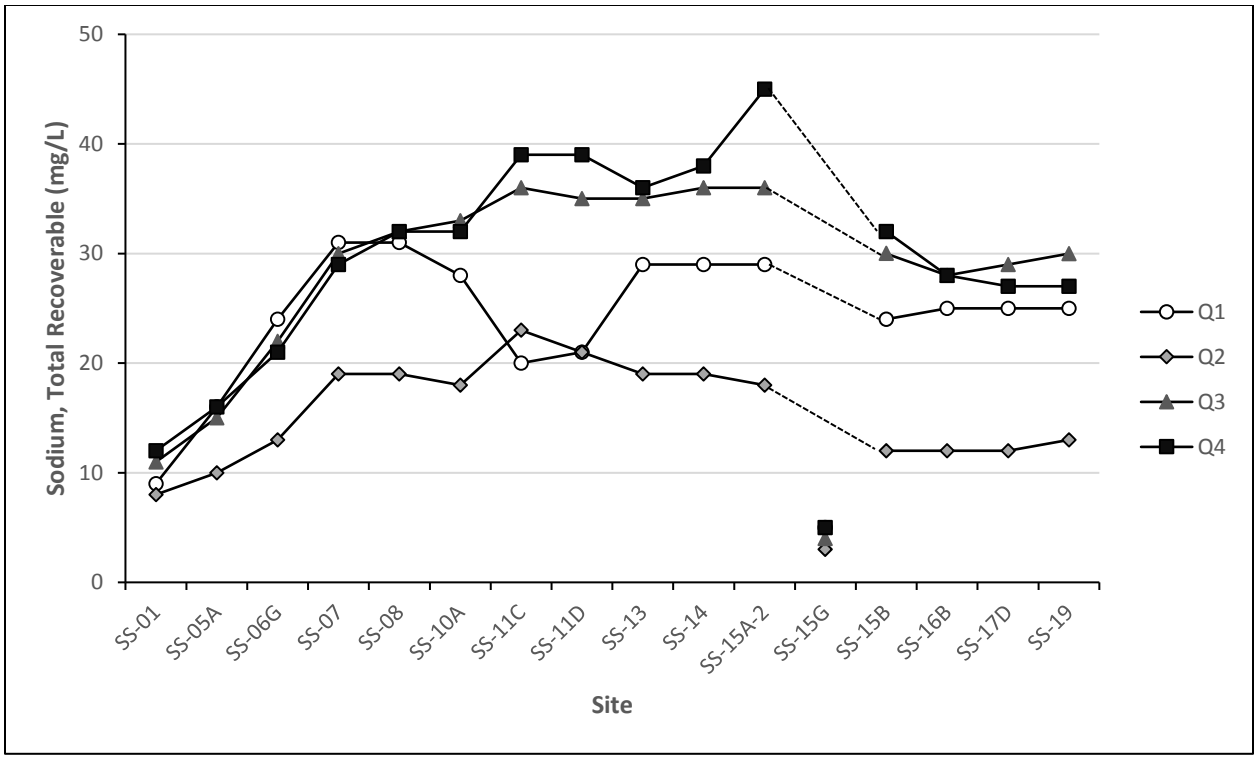

Figure 1-18. Sodium concentrations at Streamside Tailings Operable Unit sample sites, 2018.

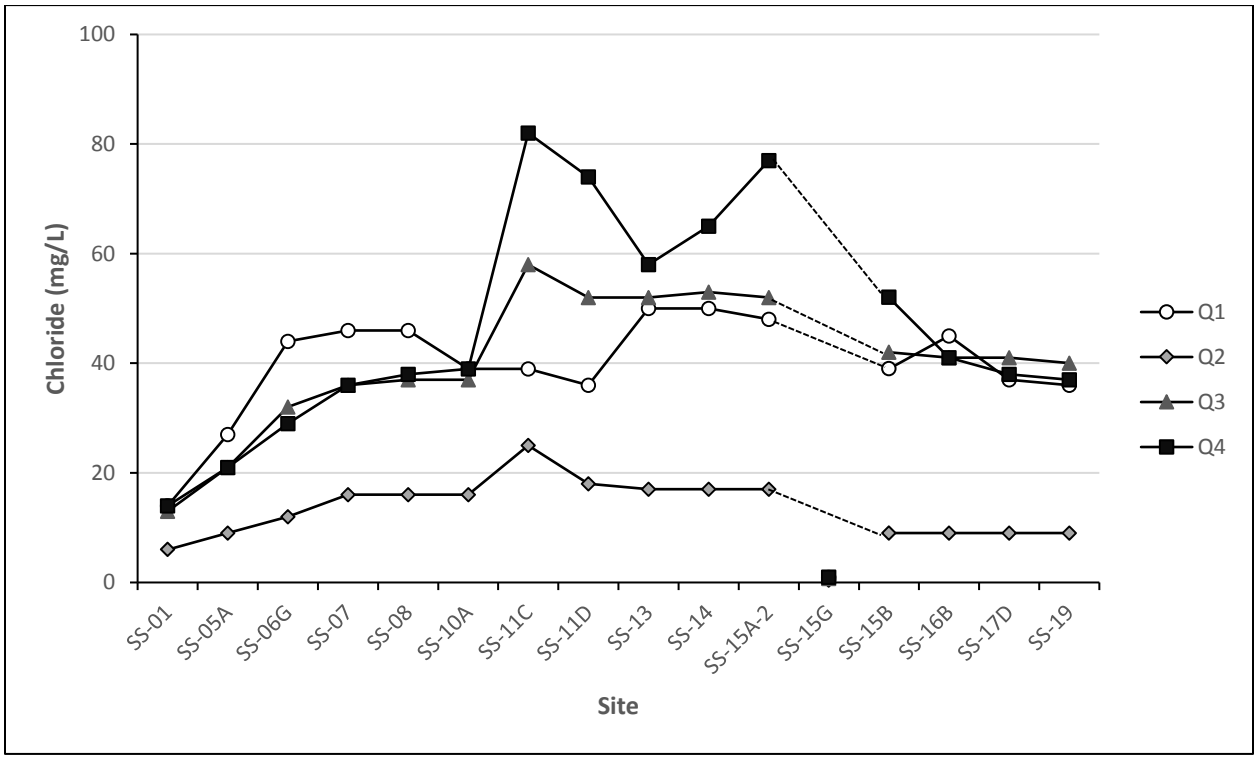

Figure 1-19. Chloride concentrations at Streamside Tailings Operable Unit sample sites, 2018.

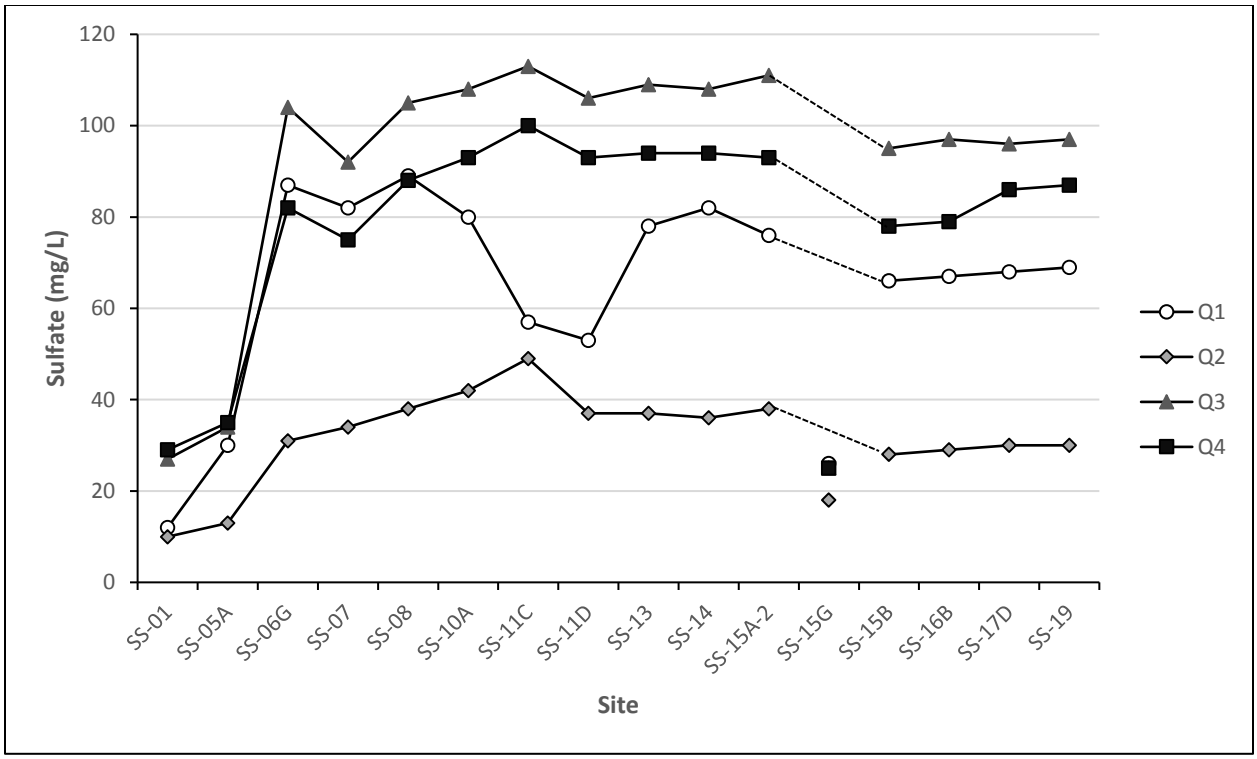

Figure 1-20. Sulfate concentrations at Streamside Tailings Operable Unit sample sites, 2018.

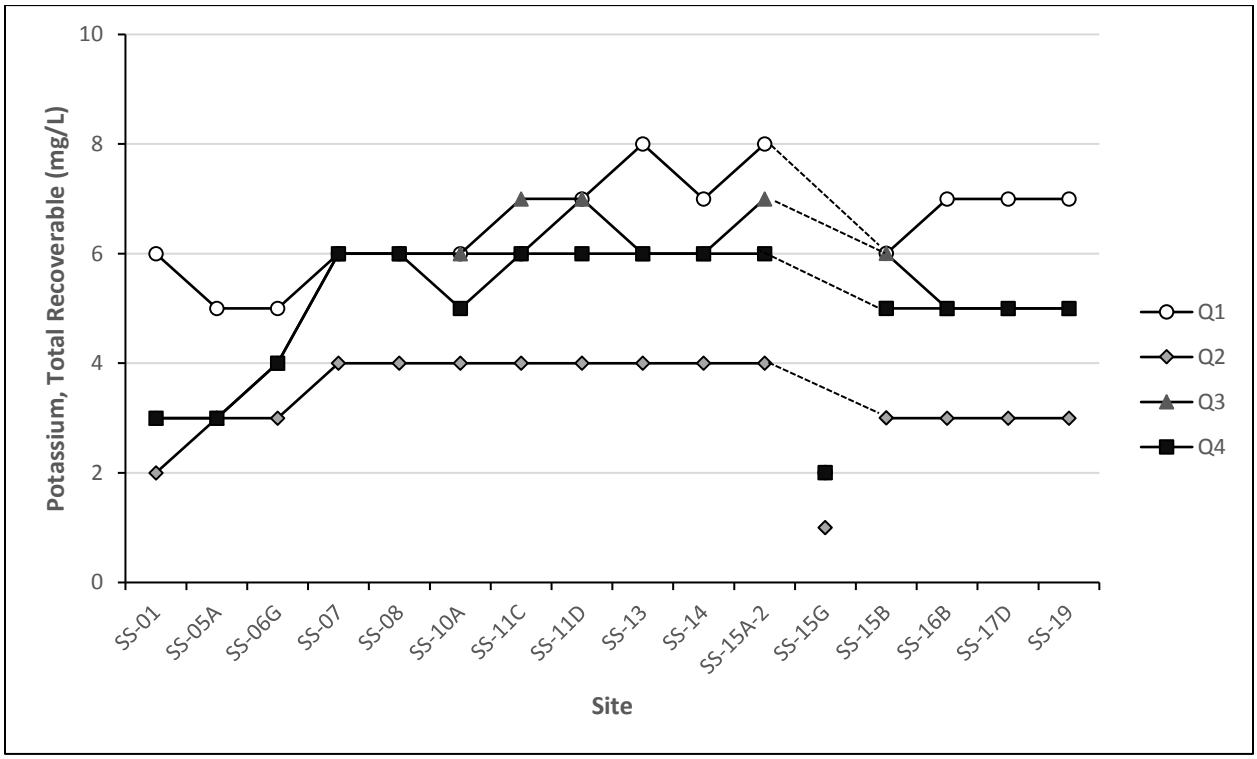

Figure 1-21. Potassium concentrations at Streamside Tailings Operable Unit sample sites, 2018.

1.4.5 Nutrients

1.4.5.1 Total Nitrogen

Total nitrogen concentrations were very high in the SSTOU in 2018 at all sites except German Gulch (Site SS-15G) (Figure 1-22). In Q3, when the total nitrogen standard is applicable, all sites except Site SS-15G (German Gulch) exceeded the 0.3 mg/L total nitrogen standard (Table 1-7; Figure 1-22). Seasonally, concentrations were lowest during spring runoff (Q2) at all sites (Figure 1-22).

Although total nitrogen concentrations remain elevated relative to the total nitrogen standard (Figure 1-22), concentrations have decreased steadily since 2014 particularly at sites immediately downstream from the WWTP (i.e., Sites SS-07, SS-08, and SS-10A) (Figure 1-23).

As in prior monitoring years, total nitrogen concentrations increased from above (Site SS-06G) to below (Site SS-07) the WWTP during each sampling event in 2018 but the increase was relatively low compared to prior monitoring years (particularly prior to 2016). In 2018, concentrations increased by 233 percent in Q1, 131 percent in Q2, 128 percent in Q3, and 135 percent in Q4 (Table 1-7). Similarly, in Q1 2017 the increase in concentrations between these sites was 248 percent but less than 140 percent during the other three quarters [RESPEC, 2018a].

Table 1-7. Total nitrogen concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	1.07	0.56	1.17	1.03
SS-05A	Silver Bow Creek above Butte Reduction Works	1.21	0.62	1.26	1.38
SS-06G	Silver Bow Creek above Butte WWTP	1.50	0.72	1.51	1.36
SS-07	Silver Bow Creek below Butte WWTP	3.50[D]	0.94	1.94	1.83
SS-08	Silver Bow Creek at Rocker	3.50[D]	0.76	1.29	1.41
SS-10A	Silver Bow Creek above Sand Creek	2.24[D]	0.65	1.20	1.51
SS-11C	Silver Bow Creek above Browns Gulch	1.87[D]	0.66	1.29	1.64
SS-11D	Silver Bow Creek below Browns Gulch	2.07[D]	0.81	1.23	1.54
SS-13	Silver Bow Creek in Reach L	2.09[D]	0.64	0.86	1.12
SS-14	Silver Bow Creek at Miles Crossing	2.20[D]	0.58	0.82	1.17
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	2.51[D]	0.68	1.11	1.38
SS-15G	German Gulch near confluence	0.18	0.12	0.09	0.08
SS-15B	Silver Bow Creek below German Gulch	2.08[D]	0.40	0.76	1.21
SS-16B	Silver Bow Creek in Reach P near Fairmont	2.18[D]	0.39	0.67	1.22
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.93[D]	0.42	0.68	0.96
SS-19	Silver Bow Creek at Frontage Road	1.92[D]	0.43	0.84	0.99

D Result obtained from analysis of diluted sample.

Exceeds the 0.3 mg/L summertime base total nitrogen standard [DEQ, 2014].

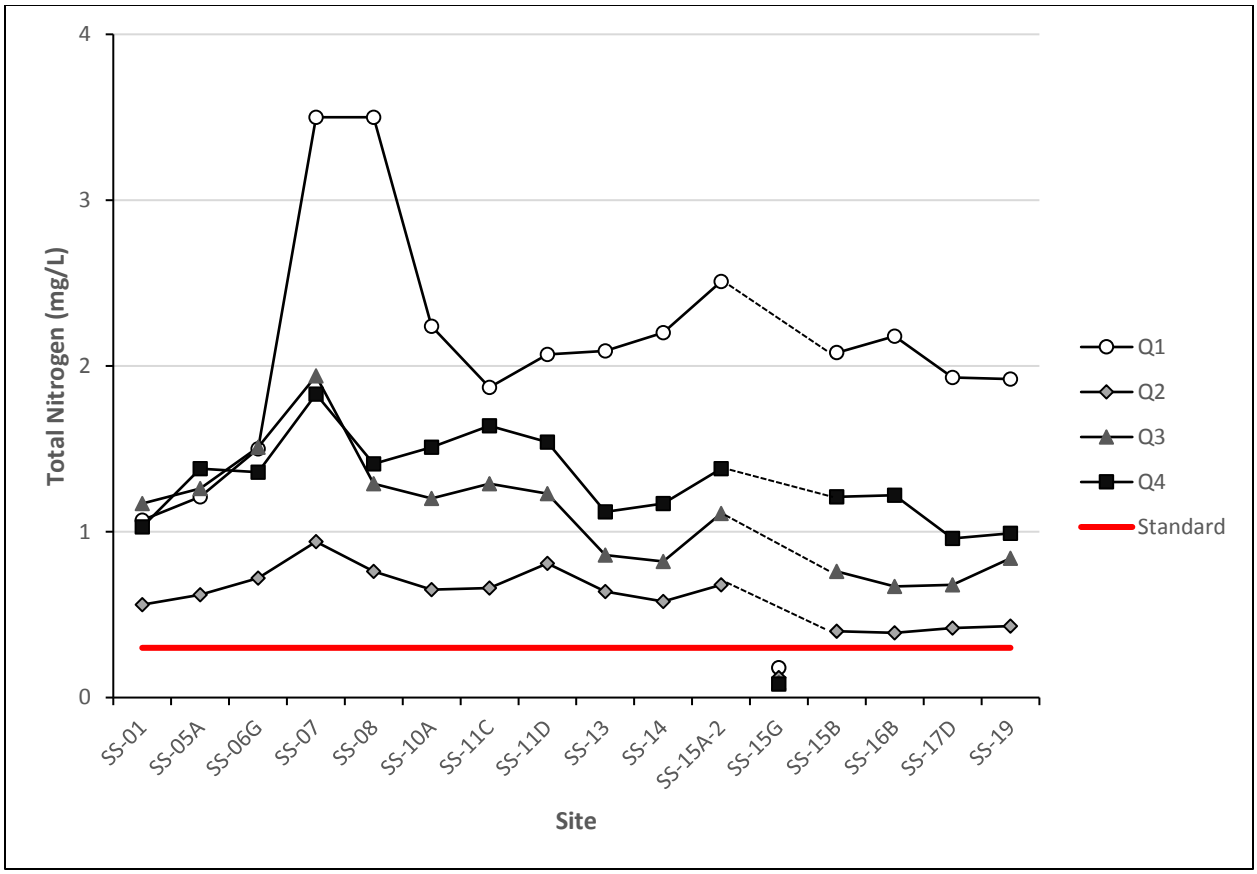

Figure 1-22. Total nitrogen concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. Red line represents the total nitrogen standard [DEQ, 2014].

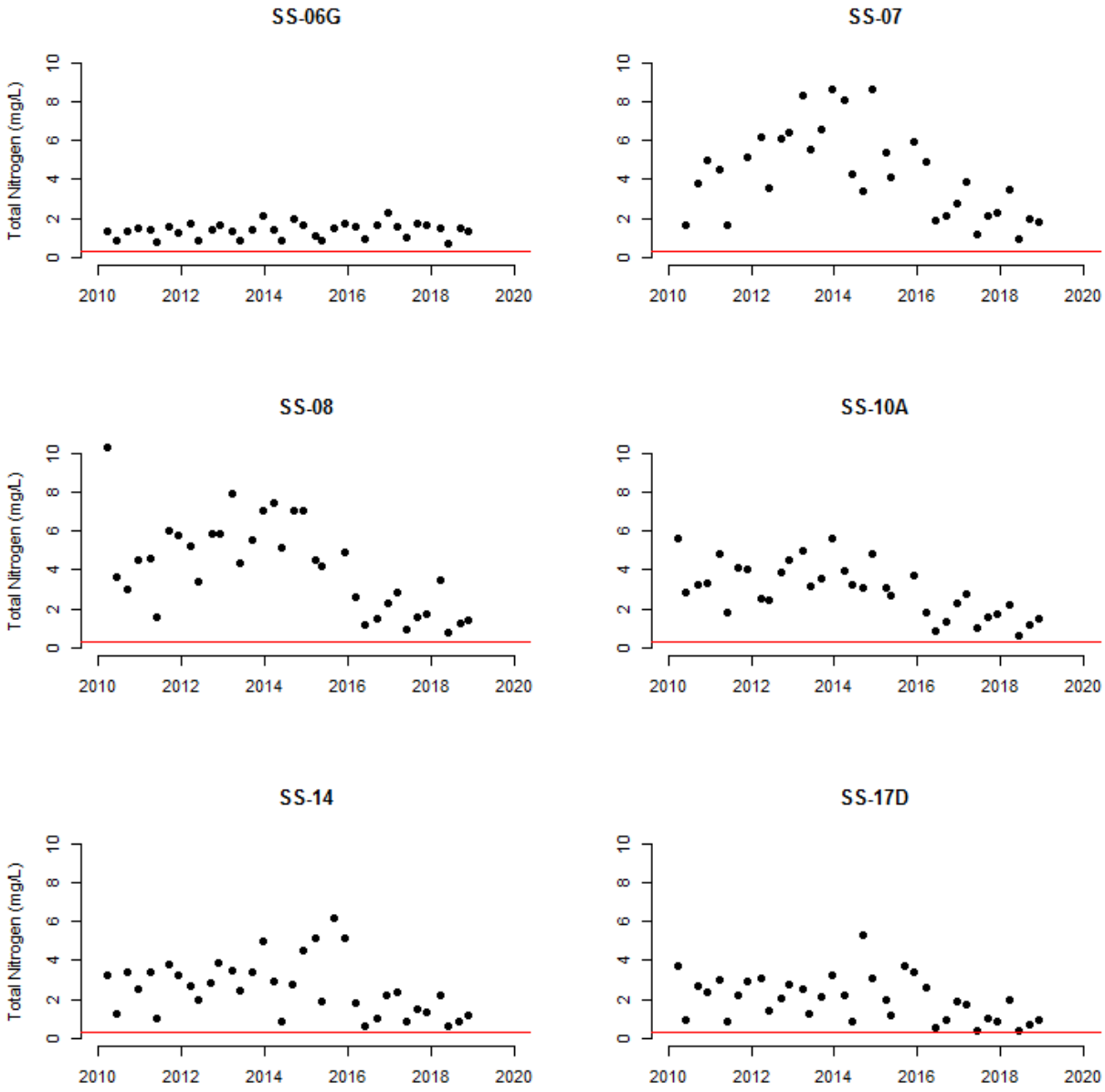

Figure 1-23. Total nitrogen concentrations (mg/L) at selected Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (Site SS-06G), below Butte WWTP (Site SS-07), at Rocker (Site SS-08), above Sand Creek (Site SS-10A), at Miles Crossing (Site SS-14), and at Opportunity (Site SS-17D). Red line represents the total nitrogen standard [DEQ, 2014].[12]

[12] Several samples with very high total nitrogen concentrations are not depicted: on September 9, 2015, 32.9 mg/L at Site SS-07, 24.9 mg/L at Site SS-08, and 18.8 mg/L at Site SS-10A; on March 23, 2010, 16.5 mg/L at Site SS-07; and on September 8, 2011, 11.0 mg/L at Site SS-07.

1.4.5.2 Nitrate plus Nitrite Nitrogen

Nitrate plus nitrite nitrogen concentrations were high (more than 0.5 mg/L) in 2018 at all sites with the exception of German Gulch (Site SS-15G) (Table 1-8). Seasonally, concentrations were lowest in Q2 and similar in other quarters with some variation among sites (Figure 1-25). During all quarters, concentrations increased steadily from Blacktail Creek at Father Sheehan Park (Site SS-01) to Silver Bow Creek below the Butte WWTP (Site SS-07), and then generally decreased (but with local deviations) downstream to Frontage Road (Site SS-19; Figure 1-24). Concentrations in German Gulch were much lower than in any Blacktail Creek or Silver Bow Creek sites (Table 1-8). Concentrations in 2018 at several long-term monitoring sites below the WWTP appeared to exhibit a declining trend although the concentrations have been variable and therefore those trends cannot be discerned with a high degree of confidence (Figure 1-25).

Table 1-8. Nitrate plus nitrite nitrogen concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.41	0.13	0.93	0.76
SS-05A	Silver Bow Creek above Butte Reduction Works	0.77	0.19	1.02	0.96
SS-06G	Silver Bow Creek above Butte WWTP	1.08	0.31	1.27	1.10
SS-07	Silver Bow Creek below Butte WWTP	1.07	0.54	1.52	1.52
SS-08	Silver Bow Creek at Rocker	1.12	0.32	0.95	1.03
SS-10A	Silver Bow Creek above Sand Creek	1.04	0.27	0.87	1.16
SS-11C	Silver Bow Creek above Browns Gulch	0.56	0.27	0.96	1.32
SS-11D	Silver Bow Creek below Browns Gulch	0.50	0.21	0.92	1.23
SS-13	Silver Bow Creek in Reach L	0.82	0.17	0.56	0.88
SS-14	Silver Bow Creek at Miles Crossing	0.87	0.16	0.54	0.91
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.73	0.17	0.79	1.13
SS-15G	German Gulch near confluence	0.06	0.01[J]	ND	0.03
SS-15B	Silver Bow Creek below German Gulch	0.59	0.10	0.51	0.97
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.67	0.10	0.42	0.98
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.72	0.10	0.41	0.72
SS-19	Silver Bow Creek at Frontage Road	0.77	0.12	0.55	0.76

ND Not detected at analytical method detection limit.

J Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 25 percent.

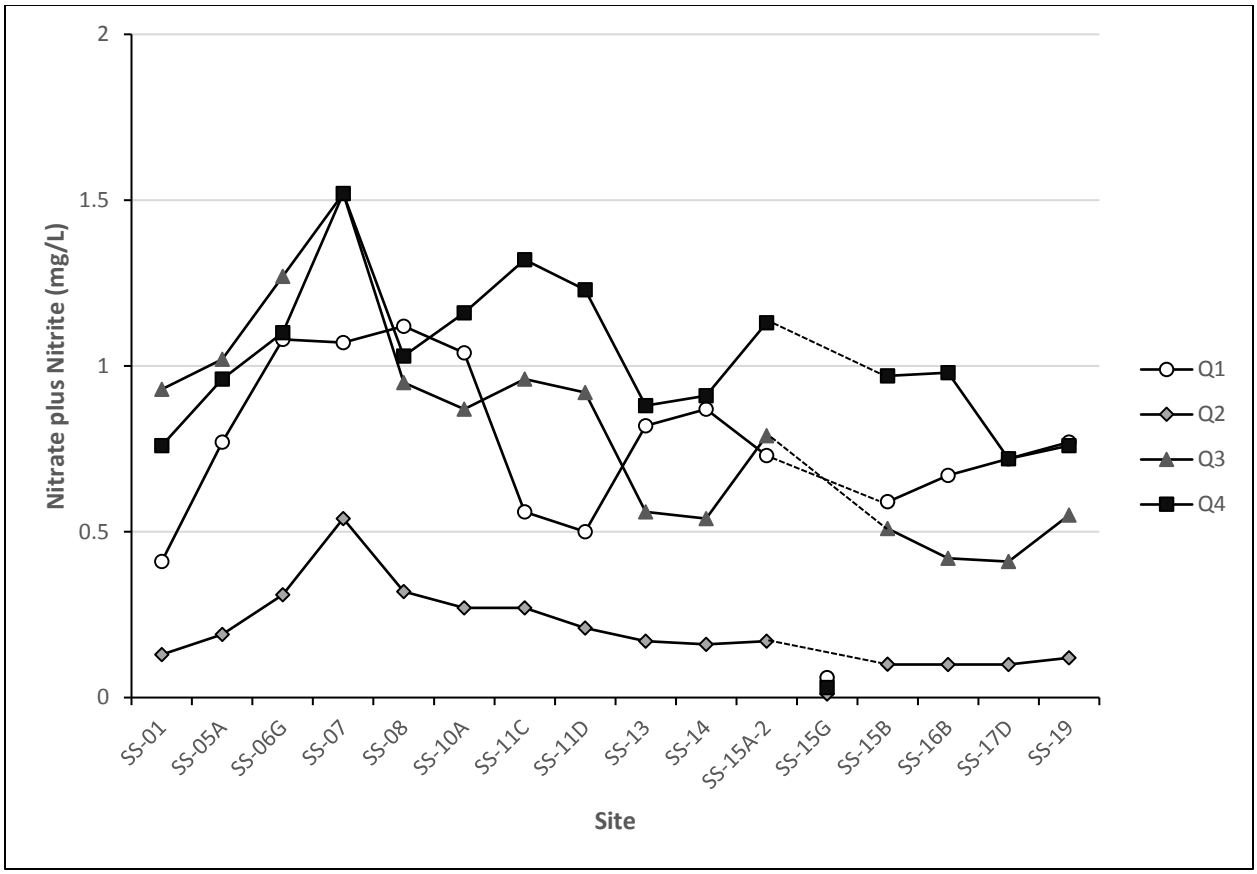

Figure 1-24. Nitrate plus nitrite nitrogen concentrations at Streamside Tailings Operable Unit monitoring stations, 2018.

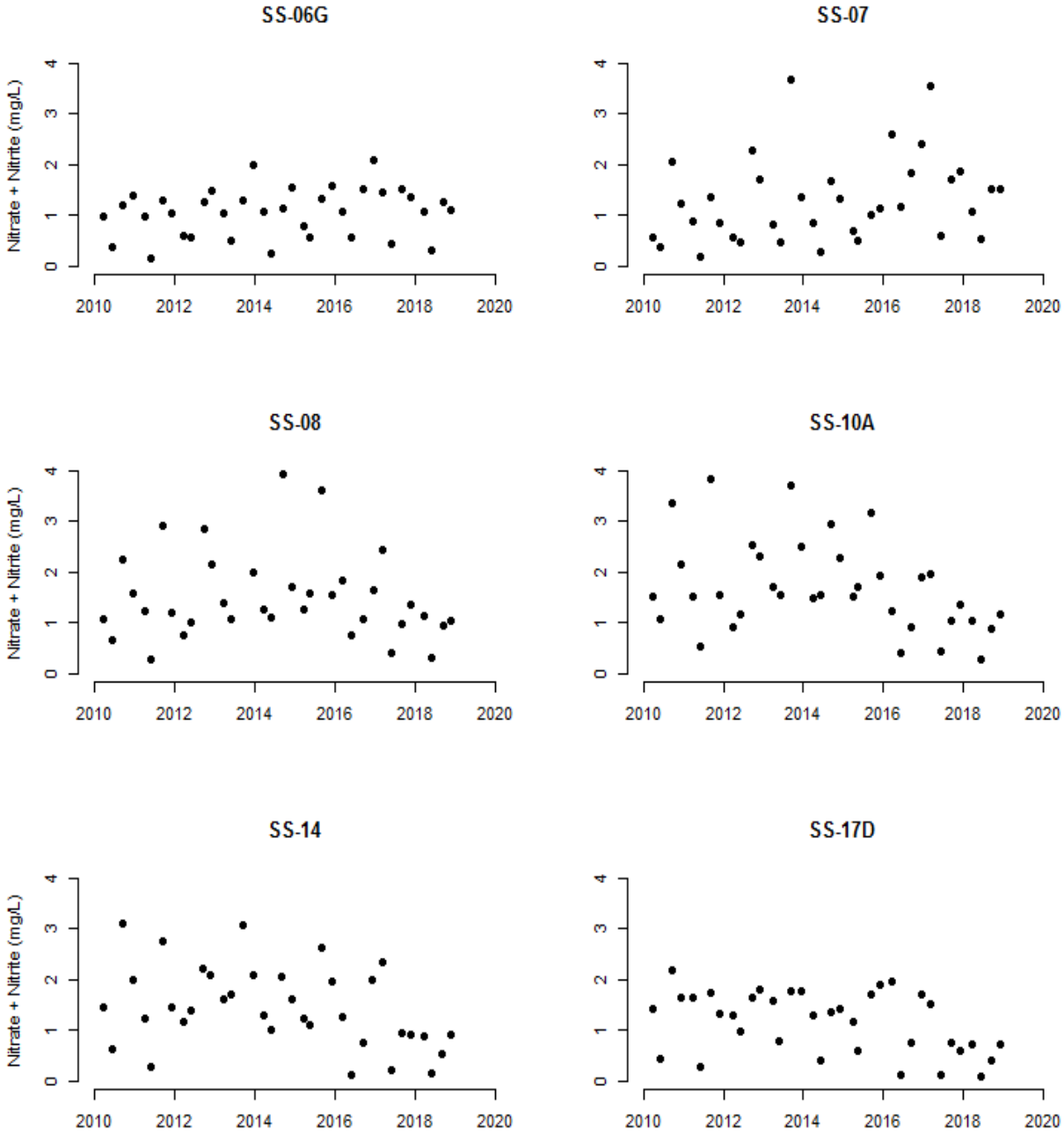

Figure 1-25. Nitrate plus nitrite concentrations (mg/L) at selected Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (Site SS-06G), below Butte WWTP (Site SS-07), at Rocker (Site SS-08), above Sand Creek (Site SS-10A), at Miles Crossing (Site SS-14), and at Opportunity (Site SS-17D).[13]

[13] One sample from Site SS-08 on September 12, 2013 (5.24 mg/L) is not depicted.

1.4.5.3 Total Ammonia

In all samples collected in Q2, Q3, and Q4 of 2018, ammonia concentrations were below the method detection limit or analytical reporting limit (Table 1-9) In Q1 however, concentrations increased rapidly from above (Site SS-06G) to below the WWTP (Site SS-07), then declined sharply downstream to above Sand Creek (Site SS-10A) and stabilized (with some variation) downstream to Frontage Road (Site SS-19) (Figure 1-26).

Upgrades to the Butte WWTP, which occurred in early 2016, appear to have substantially reduced ammonia concentrations in Silver Bow Creek downstream from the Butte WWTP (Site SS-07). Based on data collected from 2010-2018, ammonia concentrations in the stream at sites below the WWTP have decreased substantially since Q1 2016 (Figure 1-27). However, it appears that treatment methods in Q1 2018 may have deviated as ammonia was detected at all Silver Bow Creek sites downstream from the WWTP during that quarter (Figure 1-27).

Table 1-9. Total ammonia concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.15	ND	ND	ND
SS-05A	Silver Bow Creek above Butte Reduction Works	0.03[J]	ND	ND	0.03[J]
SS-06G	Silver Bow Creek above Butte WWTP	ND	ND	ND	ND
SS-07	Silver Bow Creek below Butte WWTP	1.68	ND	ND	ND
SS-08	Silver Bow Creek at Rocker	1.11	ND	ND	ND
SS-10A	Silver Bow Creek above Sand Creek	0.63	ND	ND	ND
SS-11C	Silver Bow Creek above Browns Gulch	0.63	ND	ND	ND
SS-11D	Silver Bow Creek below Browns Gulch	0.68	ND	ND	ND
SS-13	Silver Bow Creek in Reach L	0.54	ND	ND	ND
SS-14	Silver Bow Creek at Miles Crossing	0.59	ND	ND	ND
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.88	ND	ND	ND
SS-15G	German Gulch near confluence	ND	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.72	ND	ND	ND
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.74	ND	ND	ND
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.50	ND	ND	ND
SS-19	Silver Bow Creek at Frontage Road	0.45	ND	ND	ND

ND Not detected at method detection limit.

J Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 25 percent.

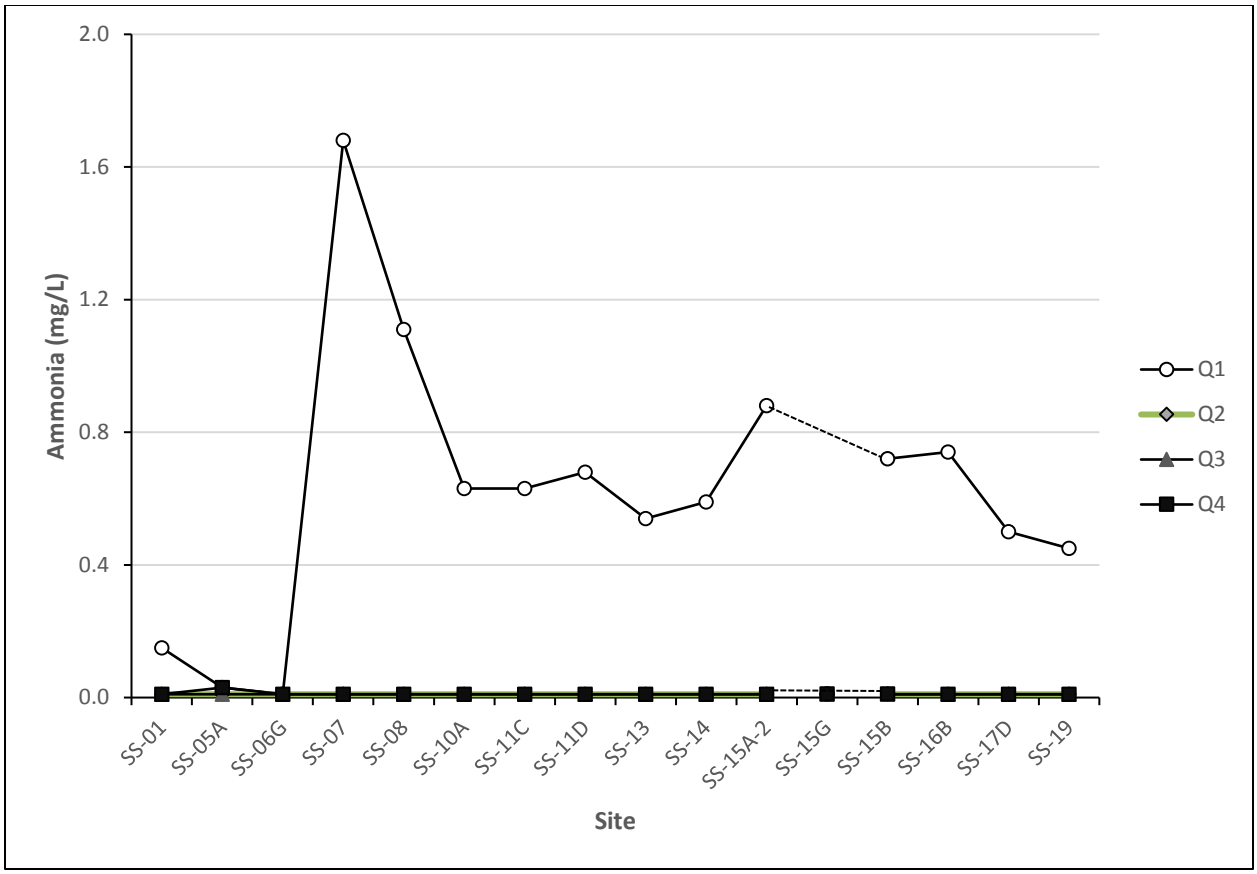

Figure 1-26. Ammonia concentrations at Streamside Tailings Operable Unit monitoring stations, 2018.

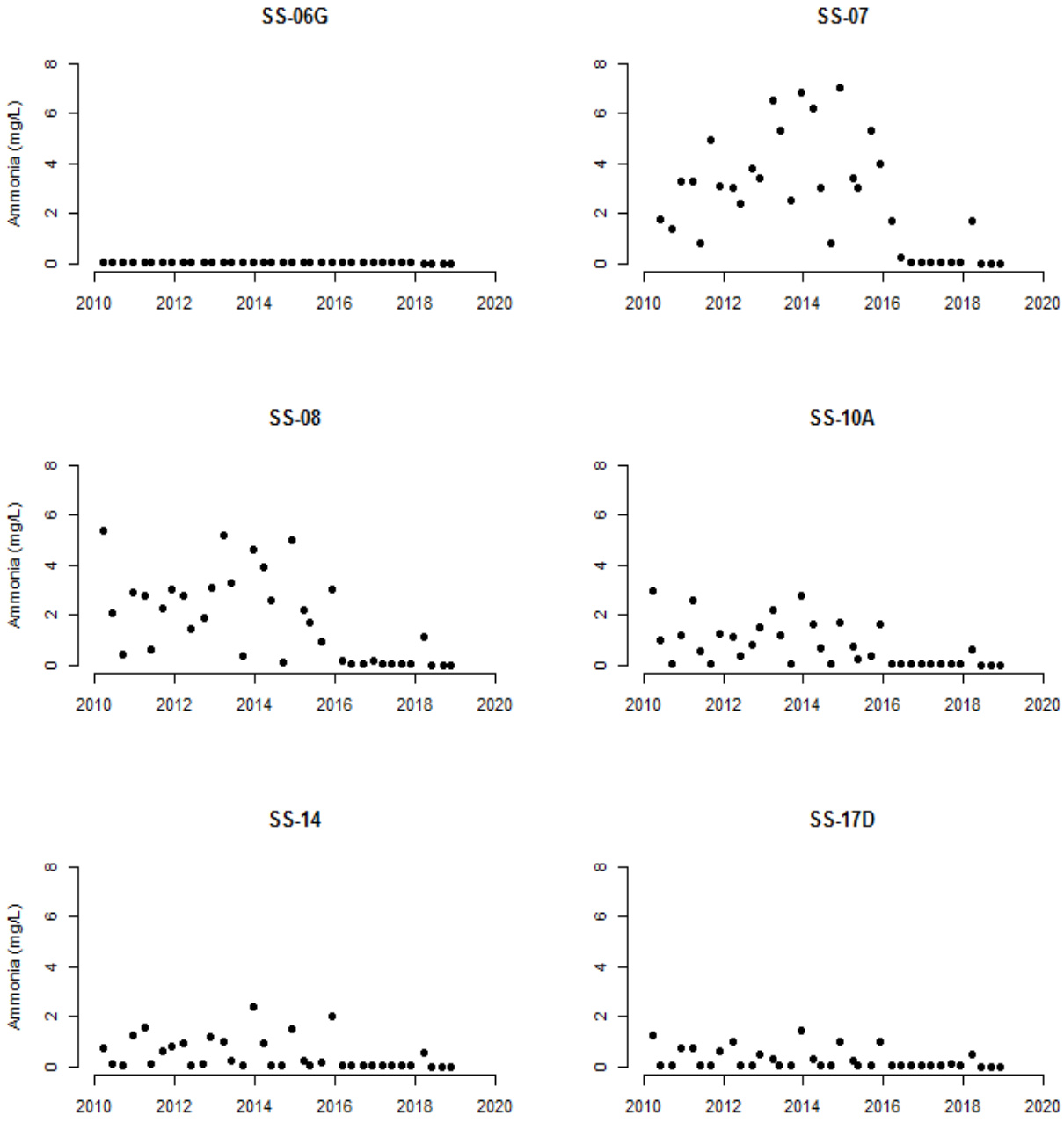

Figure 1-27. Ammonia concentrations (mg/L) at selected Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (Site SS-06G), below Butte WWTP (Site SS-07), at Rocker (Site SS-08), above Sand Creek (Site SS-10A), at Miles Crossing (Site SS-14), and at Opportunity (Site SS-17D).[14]

[14] One sample is not depicted: 11.2 mg/L at Site SS-07 on March 23, 2010.

1.4.5.4 Total Phosphorus

Total phosphorus concentrations in 2018 exceeded the total phosphorus standard at all Blacktail Creek and Silver Bow Creek sites (Table 1-10; Figure 1-28), but were generally low compared to prior monitoring years at sites downstream from the Butte WWTP (e.g., Sites SS-07, SS-08, SS-10a, SS-14, SS-17D; Figure 1-29). One sample collected in Q1 2018 in Blacktail Creek at Father Sheehan Park (Site SS-01) had a very high concentration which was more than three times higher than any other sample collected in the SSTOU in 2018 (Table 1-10; Figure 1-28). Concentrations in 2018 were lowest in Q3 and Q4, moderate in Q1 (except at Site SS-01), and highest in Q2 (Figure 1-28).

Table 1-10. Total phosphorus concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.617	0.156	0.076	0.085
SS-05A	Silver Bow Creek above Butte Reduction Works	0.177	0.162	0.088	0.137
SS-06G	Silver Bow Creek above Butte WWTP	0.108	0.152	0.063	0.096
SS-07	Silver Bow Creek below Butte WWTP	0.109	0.155	0.051	0.079
SS-08	Silver Bow Creek at Rocker	0.124	0.154	0.052	0.091
SS-10A	Silver Bow Creek above Sand Creek	0.154	0.169	0.059	0.078
SS-11C	Silver Bow Creek above Browns Gulch	0.250	0.154	0.057	0.067
SS-11D	Silver Bow Creek below Browns Gulch	0.270	0.195	0.065	0.074
SS-13	Silver Bow Creek in Reach L	0.228	0.173	0.070	0.079
SS-14	Silver Bow Creek at Miles Crossing	0.212	0.176	0.077	0.070
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.249	0.188	0.075	0.066
SS-15G	German Gulch near confluence	0.040	0.025	0.029	0.032
SS-15B	Silver Bow Creek below German Gulch	0.216	0.109	0.068	0.058
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.267	0.116	0.069	0.059
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.287	0.120	0.076	0.063
SS-19	Silver Bow Creek at Frontage Road	0.280	0.126	0.077	0.064

Exceeds the 0.03 mg/L summertime base numeric nutrient standard for total phosphorus [DEQ, 2014].

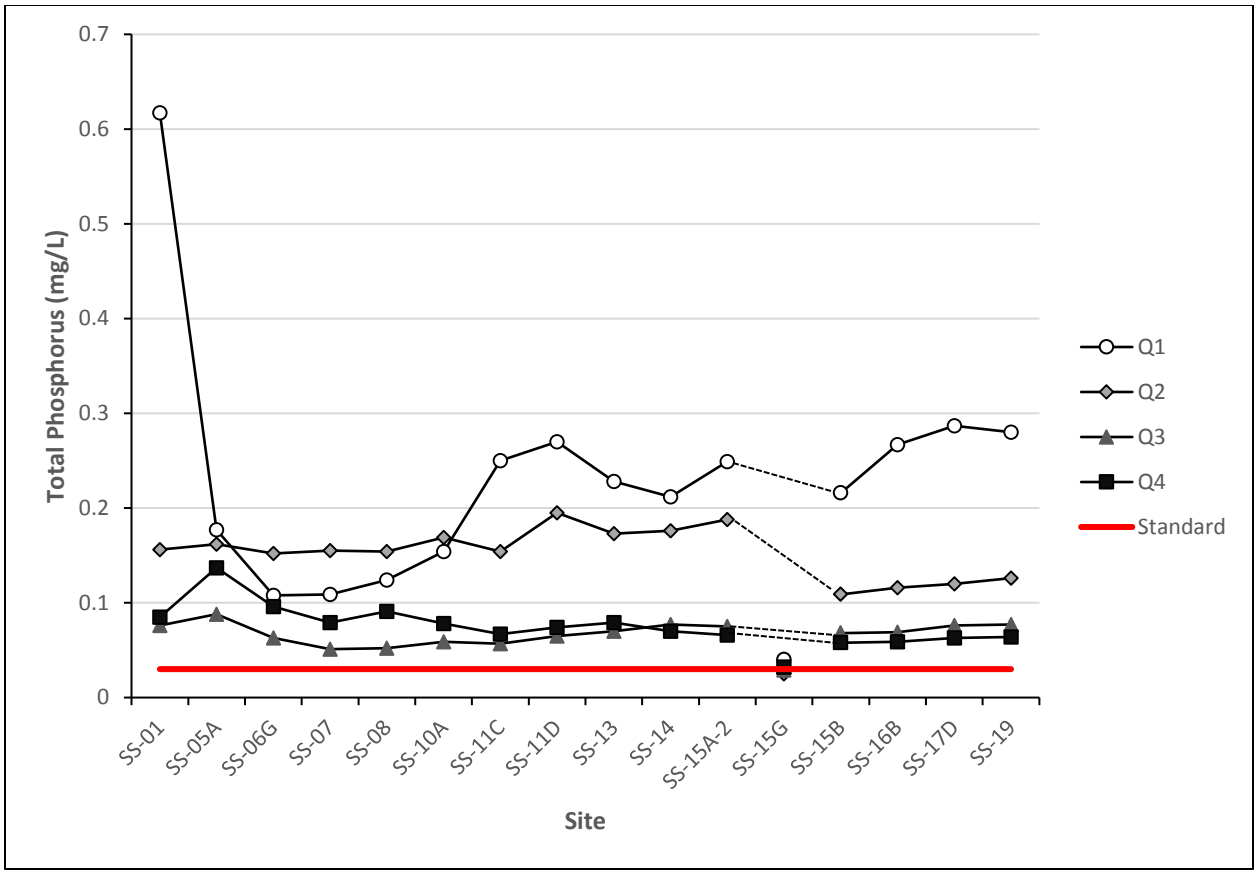

Figure 1-28. Total phosphorus concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. Red line represents total phosphorus standard [DEQ, 2014].

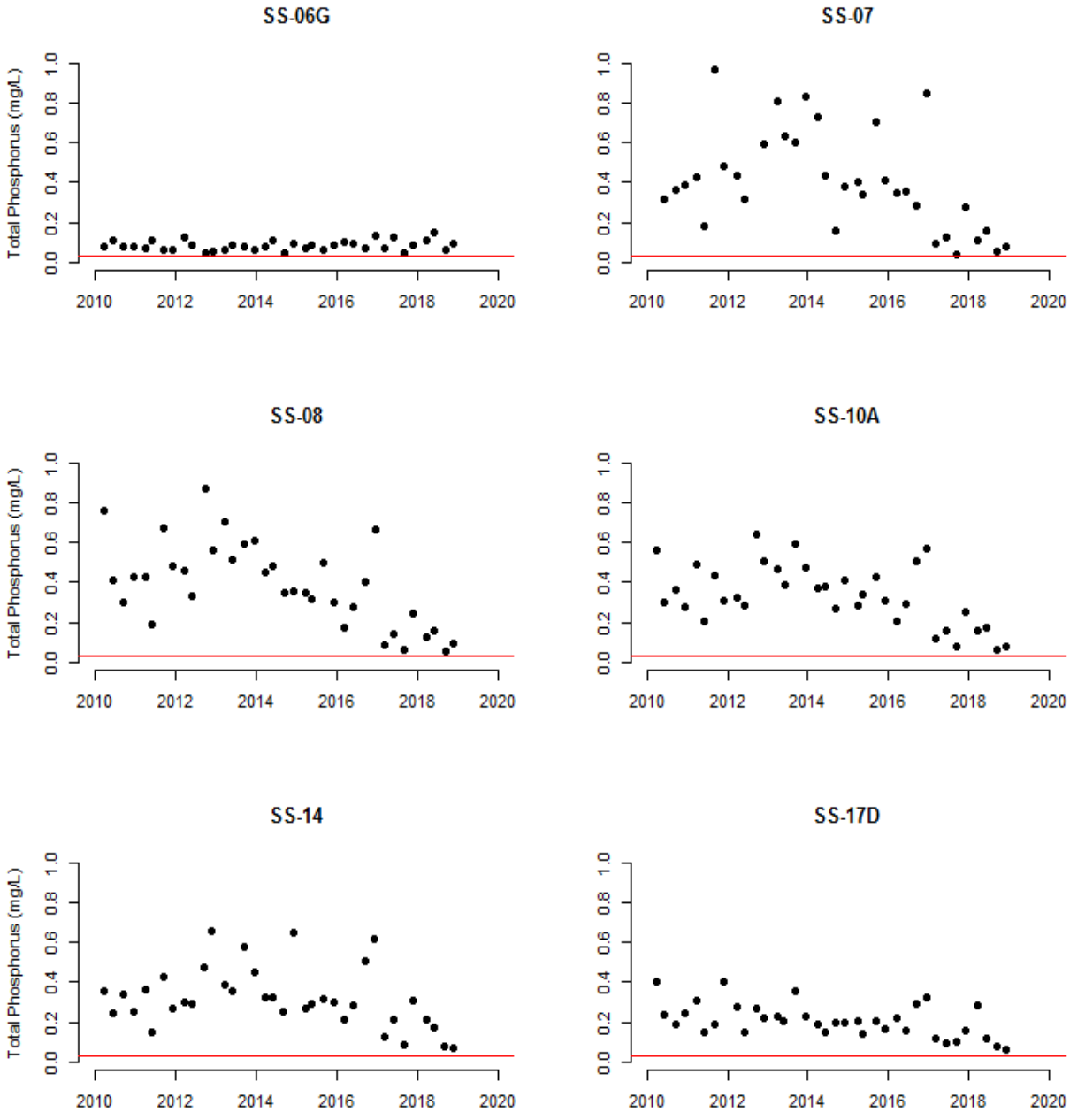

Figure 1-29. Total phosphorus concentrations (mg/L) at selected Silver Bow Creek sites in the Streamside Tailings Operable Unit: above Butte WWTP (Site SS-06G), below Butte WWTP (Site SS-07), at Rocker (Site SS-08), above Sand Creek (Site SS-10A), at Miles Crossing (Site SS-14), and at Opportunity (Site SS-17D). Red line represents the total phosphorus standard [DEQ, 2014].[15]

[15] Two SS-07 samples are not depicted: 1.37 mg/L on March 23, 2010 and 1.18 mg/L on September 20, 2012.

1.4.6 Contaminants of Concern

1.4.6.1 Arsenic

In 2018, total recoverable arsenic concentrations in the SSTOU ranged from 0.003-0.015 mg/L (Table 1-11). Ten Q1 samples and 13 Q2 samples exceeded the 0.010 mg/L human health surface water standard (Figure 1-30). Concentrations were highest in Q1 and Q2 and lowest in Q3 and Q4 (Figure 1-30). Q1 concentrations were highly variable in sites upstream from Subarea 2 (i.e., sites in Figure 1-30 left of Site SS-11C).

Compared to prior monitoring years (2010-2017), total recoverable arsenic concentrations in 2018 were generally similar in reference sites, although the Q1 and Q2 concentrations approached the higher end of the range of concentrations from prior monitoring periods (Figure 1-31). Concentrations in Subarea 1 and 2 sites in 2018 during Q1 and Q2 were also at the higher end of the range of concentrations for the monitoring period extending back to 2010 but concentrations in Q3 and Q4 were similar to prior concentrations (Figure 1-32; Figure 1-33). In Subareas 3 and 4, sample concentrations in Q3 and Q4 of 2018 appeared to continue the declining trends apparent from monitoring data since 2010 (Figure 1-34; Figure 1-35). In Q1 and Q2 of 2018, Subarea 3 and 4 site concentrations were relatively high (although not out of the range of prior samples) and slightly out of line with recent trends (Figure 1-34; Figure 1-35).

Table 1-11. Total recoverable arsenic concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.013	0.012	0.004	0.003
SS-05A	Silver Bow Creek above Butte Reduction Works	0.009	0.013	0.005	0.005
SS-06G	Silver Bow Creek above Butte WWTP	0.006	0.012	0.005	0.004
SS-07	Silver Bow Creek below Butte WWTP	0.005	0.011	0.004	0.004
SS-08	Silver Bow Creek at Rocker	0.005	0.012	0.005	0.005
SS-10A	Silver Bow Creek above Sand Creek	0.008	0.011	0.004	0.004
SS-11C	Silver Bow Creek above Browns Gulch	0.014	0.011	0.005	0.005
SS-11D	Silver Bow Creek below Browns Gulch	0.015	0.014	0.006	0.005
SS-13	Silver Bow Creek in Reach L	0.012	0.014	0.006	0.005
SS-14	Silver Bow Creek at Miles Crossing	0.012	0.014	0.006	0.005
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.013	0.012	0.006	0.005
SS-15G	German Gulch near confluence	0.003	0.004	0.004	0.003
SS-15B	Silver Bow Creek below German Gulch	0.011	0.009	0.006	0.005
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.014	0.010	0.006	0.005
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.015	0.011	0.006	0.005
SS-19	Silver Bow Creek at Frontage Road	0.015	0.011	0.007	0.005

ND Not detected at method detection limit.

Exceeds the 0.010 mg/L human health standard [DEQ, 2017].

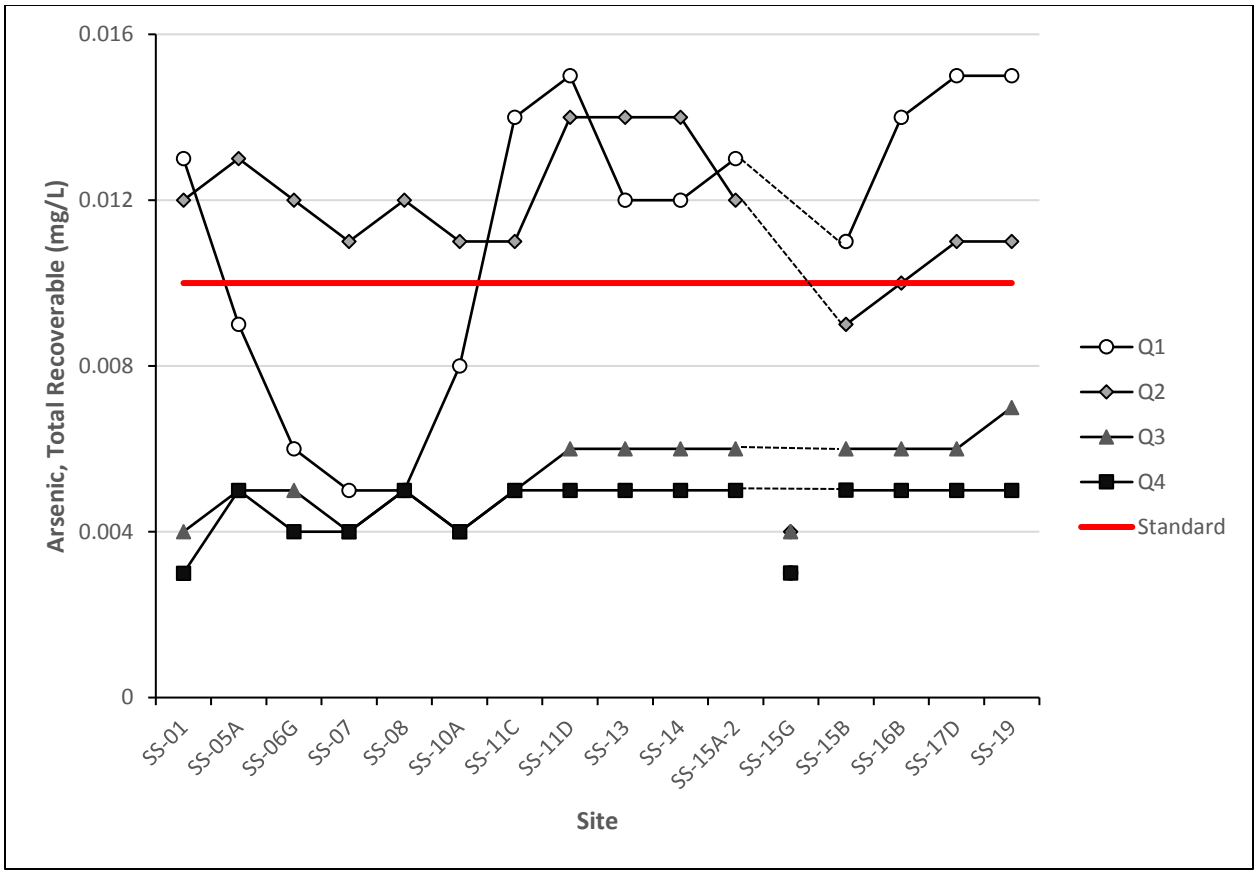

Figure 1-30. Total recoverable arsenic concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. Red line represents the human health surface water standard [DEQ, 2017].

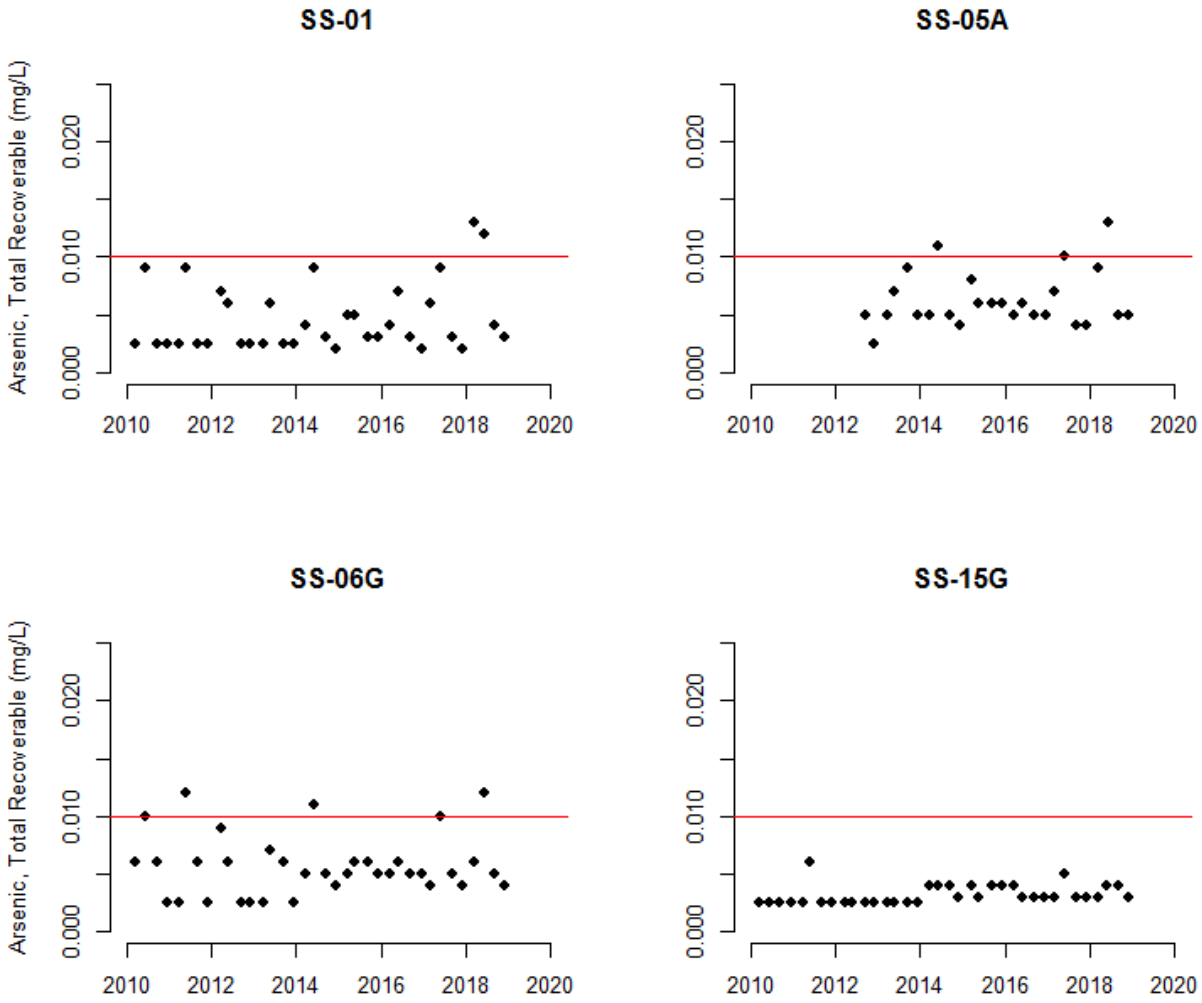

Figure 1-31. Total recoverable arsenic concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Red line represents the human health surface water standard [DEQ, 2017].

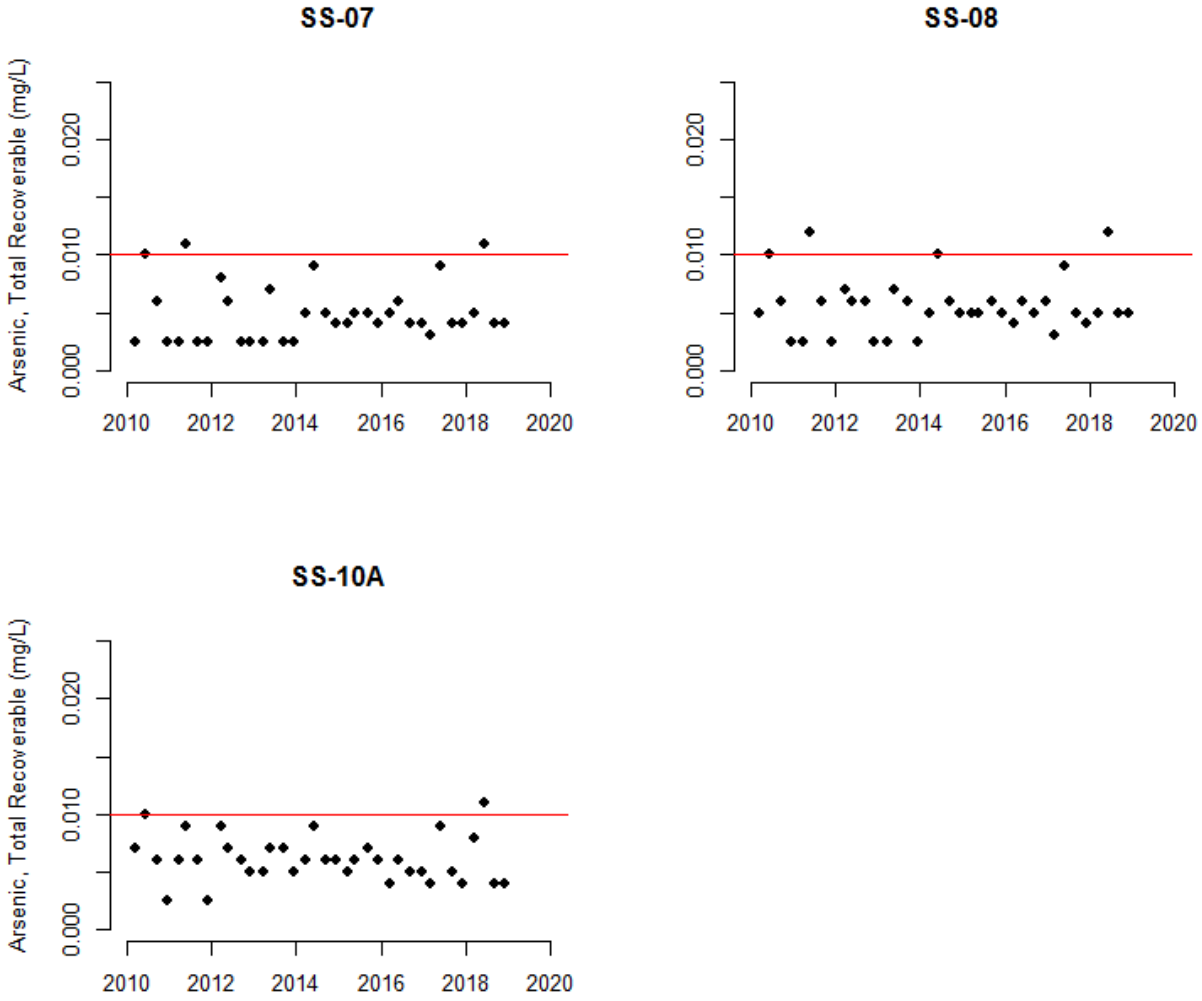

Figure 1-32. Total recoverable arsenic concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Red line represents the human health surface water standard [DEQ, 2017].

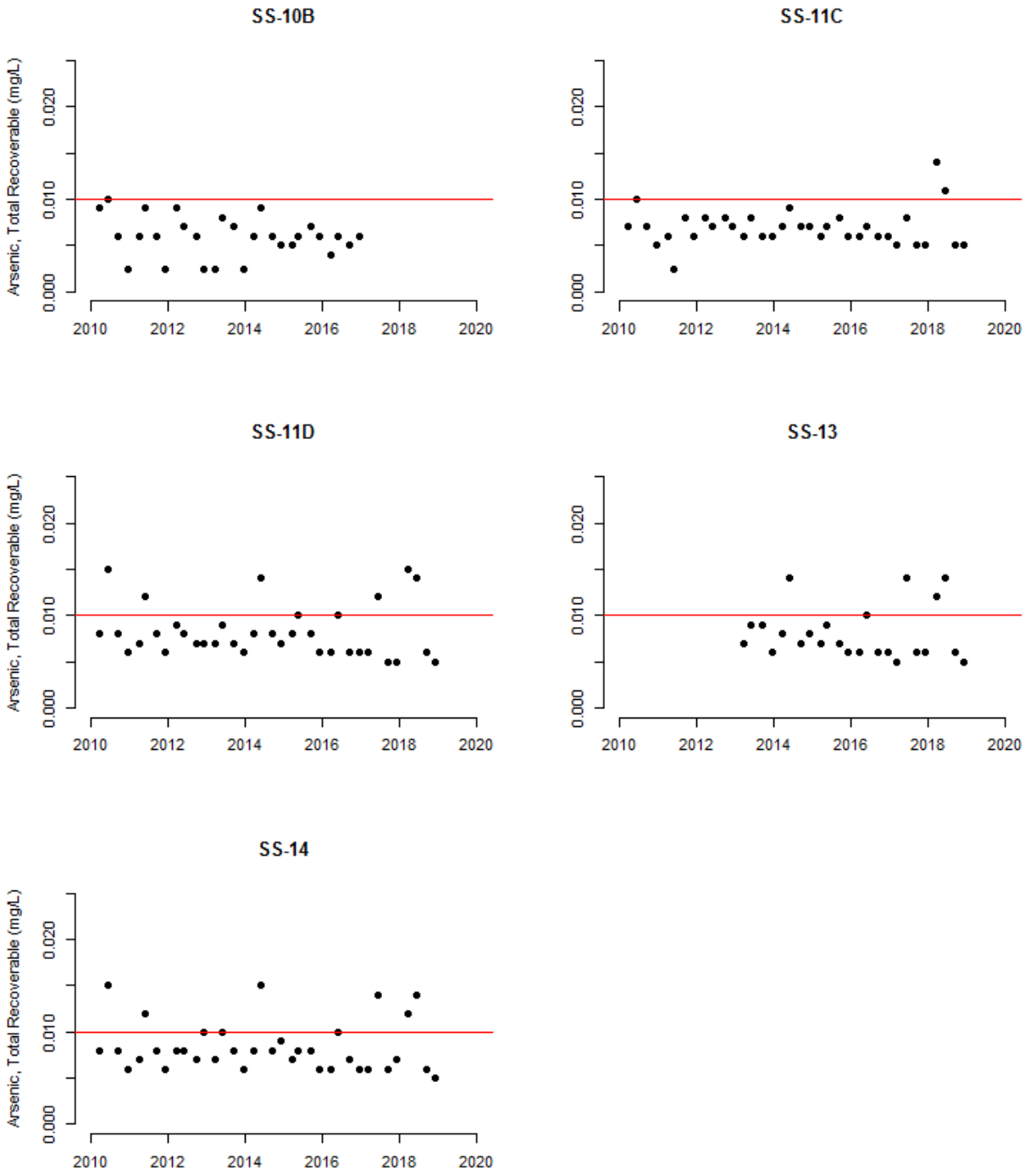

Figure 1-33. Total recoverable arsenic concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (Site SS-10B), Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Red line represents the human health surface water standard [DEQ, 2017].

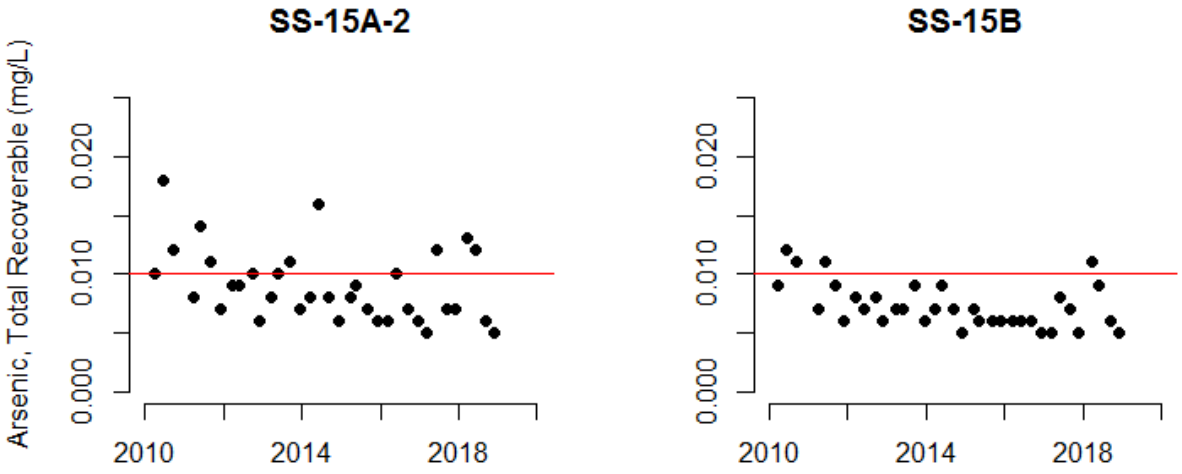

Figure 1-34. Total recoverable arsenic concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-15A-2) and below (Site SS-15B) German Gulch. Red line represents the human health surface water standard [DEQ, 2017].[16, 17]

[16] Two outliers are not depicted: 0.111 mg/L at SS-15A and 0.060 mg/L at SS-15B on December 13, 2010.

[17] The scatterplot representing data at Site SS-15A-2 includes data from Site SS-15A in years prior to 2017. Site SS-15A was relocated approximately 100 m upstream and renamed (Site SS-15A-2) to better represent prevailing conditions in the remediated stream channel in Subarea 3 above German Gulch [see RESPEC, 2018a].

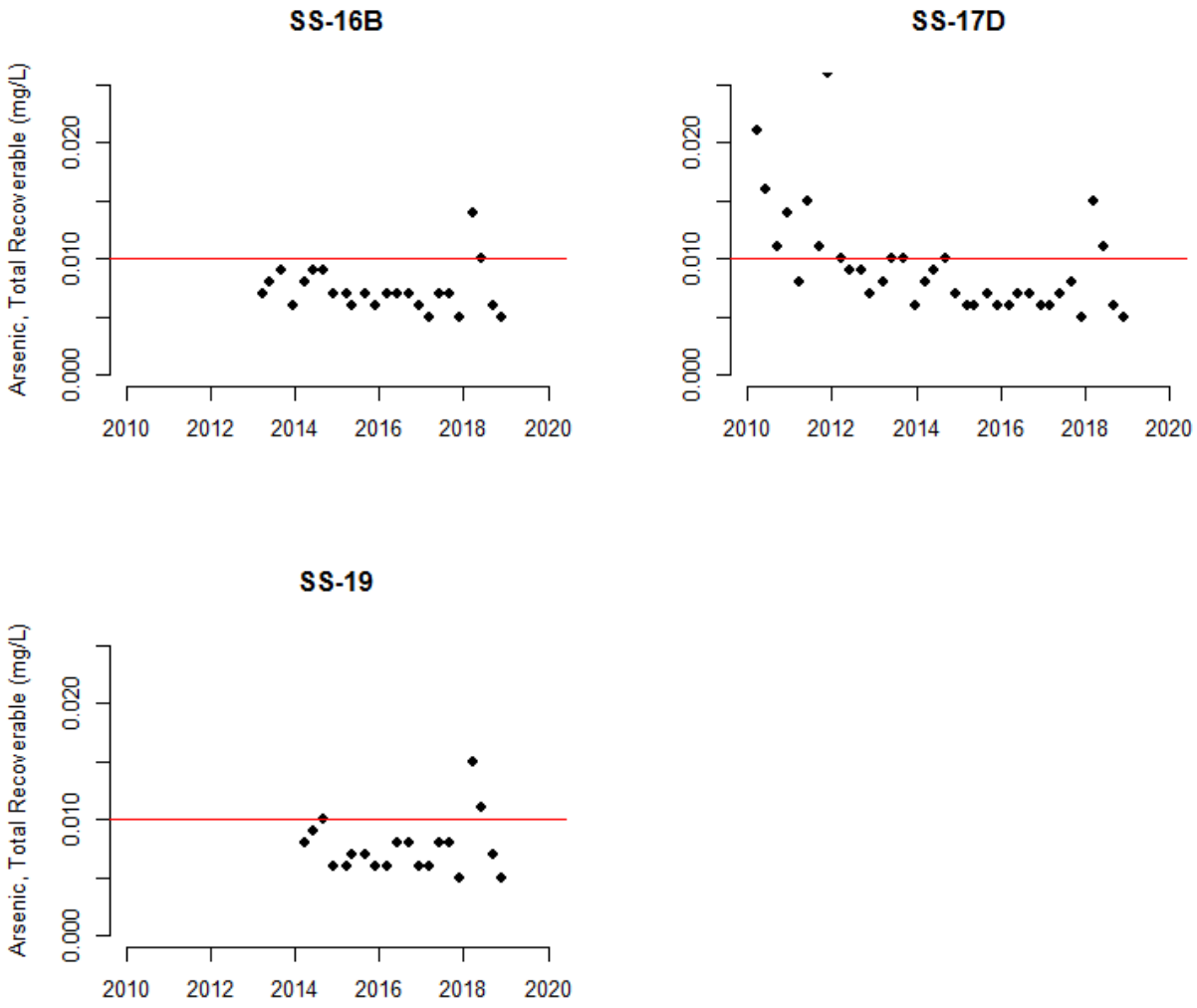

Figure 1-35. Total recoverable arsenic concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Red line represents the human health surface water standard [DEQ, 2017].

1.4.6.2 Cadmium

In 2018, total recoverable cadmium concentrations in the SSTOU ranged from <0.00002-0.00073 mg/L (Table 1-12). No samples exceeded the human health chronic aquatic life standard (Table 1-12). Concentrations were generally highest in Q1 or Q4 and lowest in Q3 (Figure 1-36).

Compared to prior monitoring years (2010-2017), total recoverable cadmium concentrations in 2018 were generally similar in reference sites (Figure 1-37), Subarea 1 sites (Figure 1-38), and Subarea 2 sites (Figure 1-39). However, concentrations in Q1 2018 in the Blacktail Creek at Father Sheehan Park (Site SS-01) reference site were higher than in any prior monitoring period since 2010 (Figure 1-37). In Subarea 3 and 4, concentrations appear to have decreased steadily since 2010 in most sites but Q1 2018 concentrations were generally slightly higher than expected given the longer term trend (Figure 1-40).

Table 1-12. Total recoverable cadmium concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.00023	0.00004	ND	0.00003
SS-05A	Silver Bow Creek above Butte Reduction Works	0.00021	0.00007	0.00006	0.00014
SS-06G	Silver Bow Creek above Butte WWTP	0.00014	0.00011	0.00010	0.00017
SS-07	Silver Bow Creek below Butte WWTP	0.00011	0.0001	0.00008	0.00016
SS-08	Silver Bow Creek at Rocker	0.00024	0.0002	0.00020	0.00037
SS-10A	Silver Bow Creek above Sand Creek	0.00051	0.00041	0.00025	0.00048
SS-11C	Silver Bow Creek above Browns Gulch	0.00045	0.00037	0.00024	0.00050
SS-11D	Silver Bow Creek below Browns Gulch	0.00044	0.00033	0.00025	0.00045
SS-13	Silver Bow Creek in Reach L	0.00054	0.0003	0.00019	0.00037
SS-14	Silver Bow Creek at Miles Crossing	0.00056	0.00027	0.00015	0.00034
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.00056	0.00028	0.00015	0.00035
SS-15G	German Gulch near confluence	ND	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	0.00044	0.00016	0.00014	0.00028
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.00053	0.00019	0.00014	0.00029
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.00065	0.00025	0.00028	0.00037
SS-19	Silver Bow Creek at Frontage Road	0.00073	0.00031	0.00027	0.00034

ND Not detected at method detection limit.

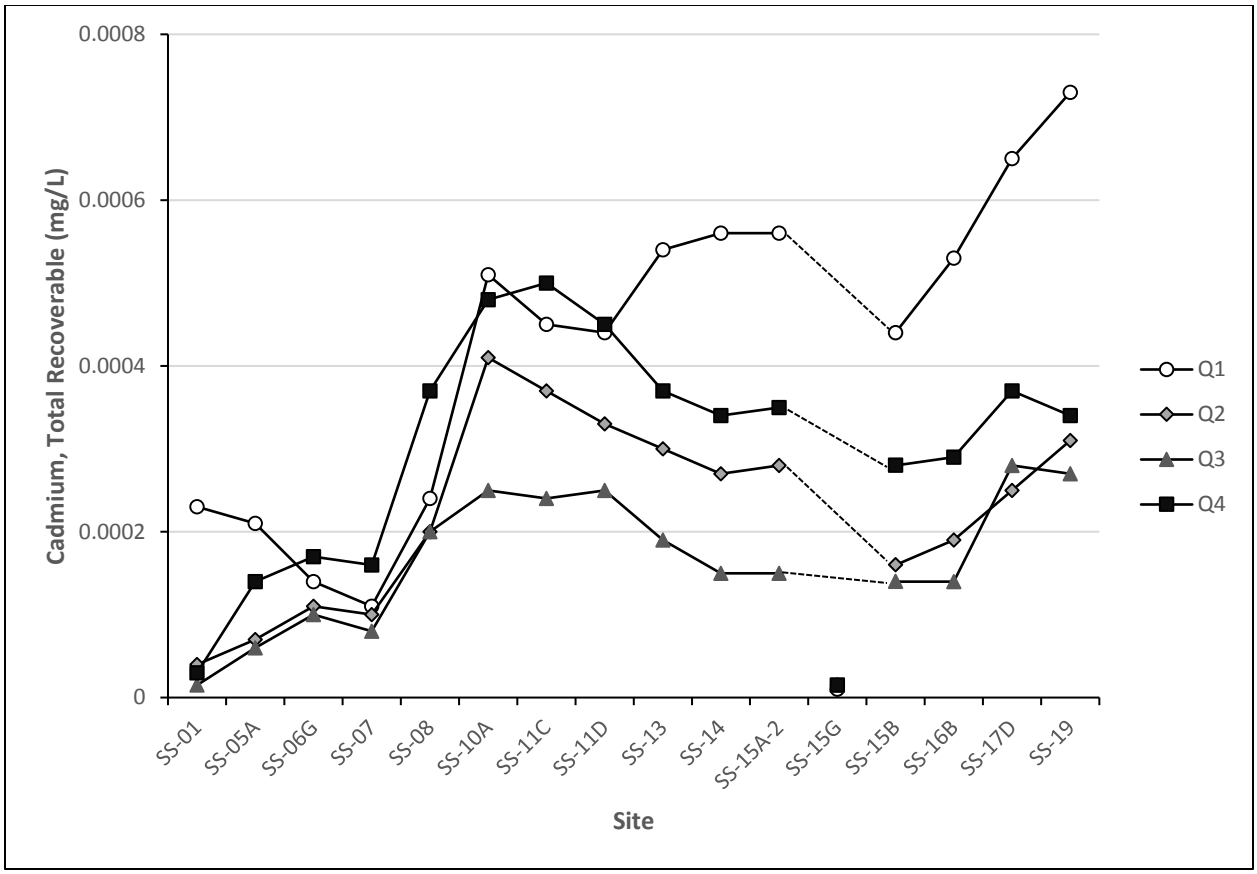

Figure 1-36. Total recoverable cadmium concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. No samples exceeded the chronic aquatic life standard [DEQ, 2017].

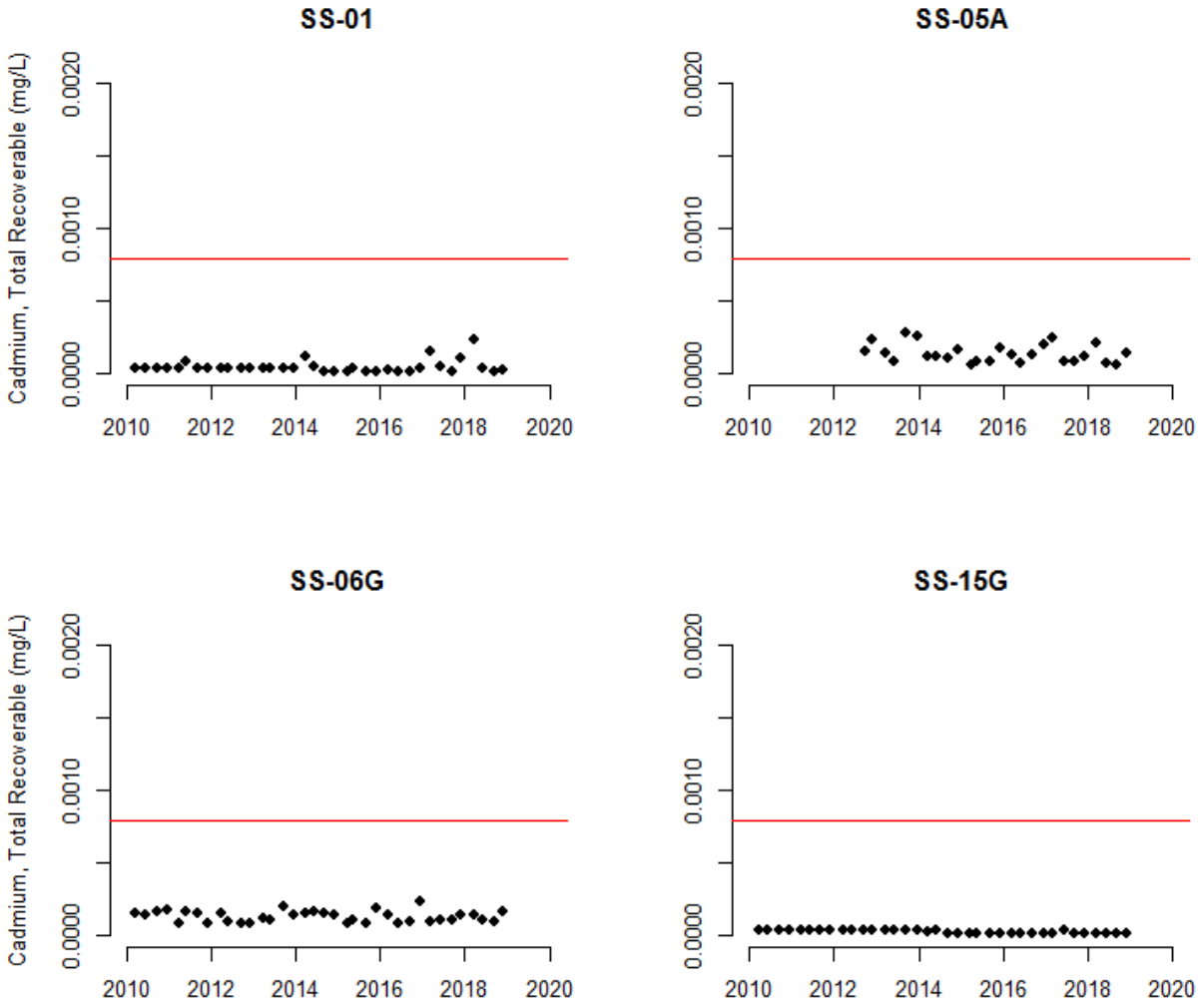

Figure 1-37. Total recoverable cadmium concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

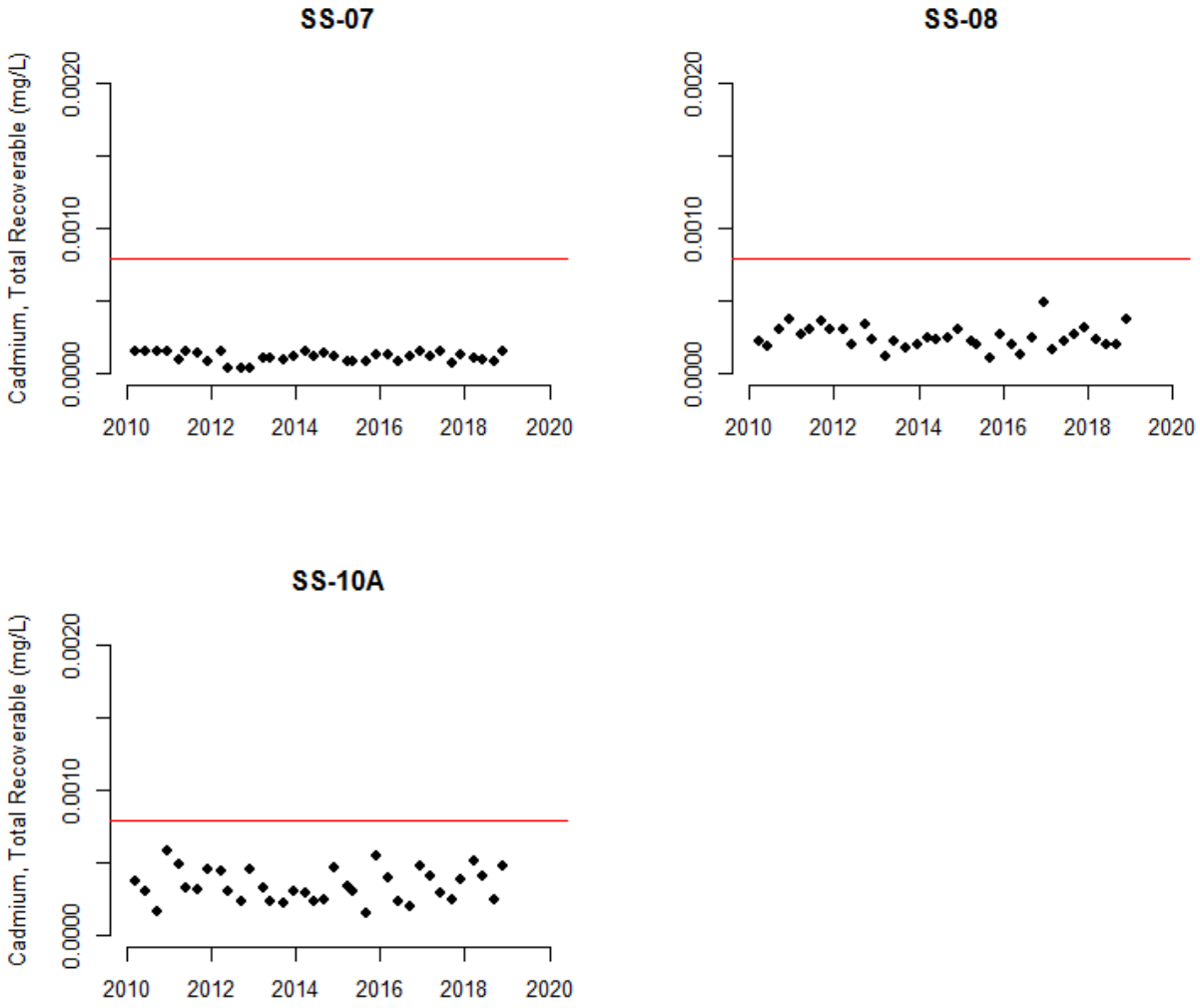

Figure 1-38. Total recoverable cadmium concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

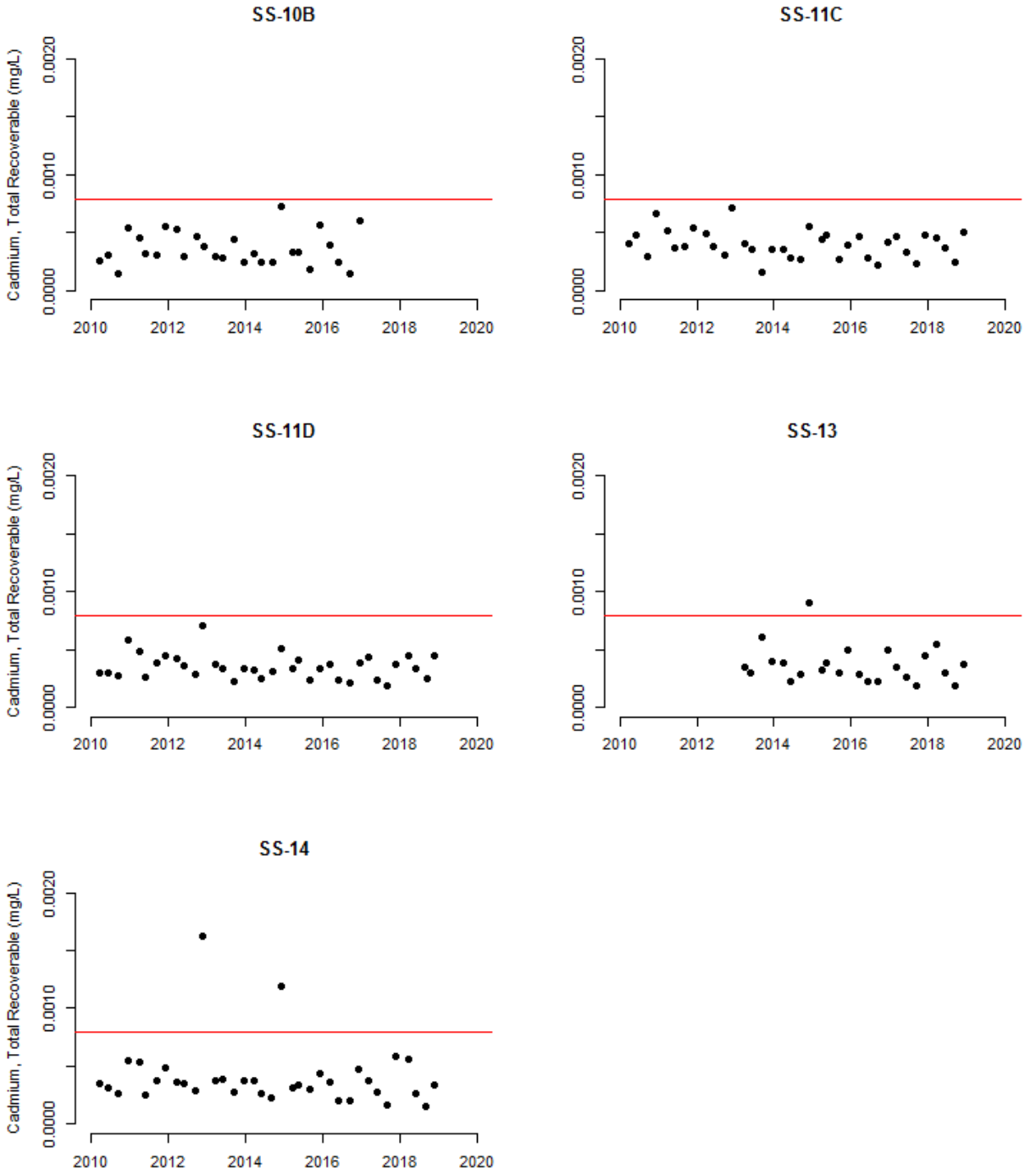

Figure 1-39. Total recoverable cadmium concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (Site SS-10B), Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

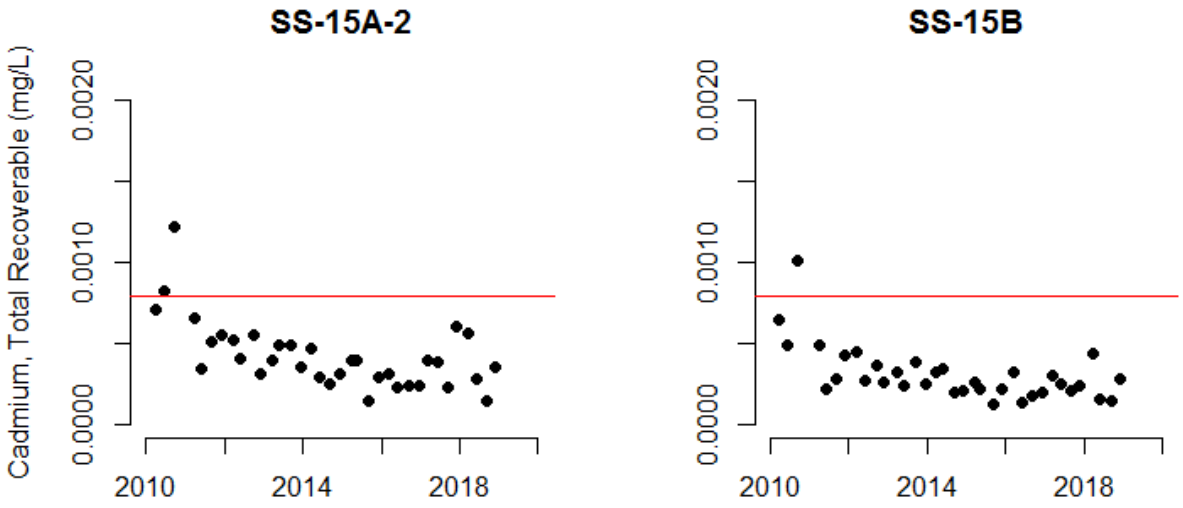

Figure 1-40. Total recoverable cadmium concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-15A-2) and below (Site SS-15B) German Gulch. Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].[18, 19]

[18] Two outliers are not depicted: 0.01180 mg/L at SS-15A and 0.00707 mg/L at SS-15B on December 13, 2010.

[19] The scatterplot representing data at Site SS-15A-2 includes data from Site SS-15A in years prior to 2017. Site SS-15A was relocated approximately 100 m upstream and renamed (Site SS-15A-2) to better represent prevailing conditions in the remediated stream channel in Subarea 3 above German Gulch [see RESPEC, 2018a].

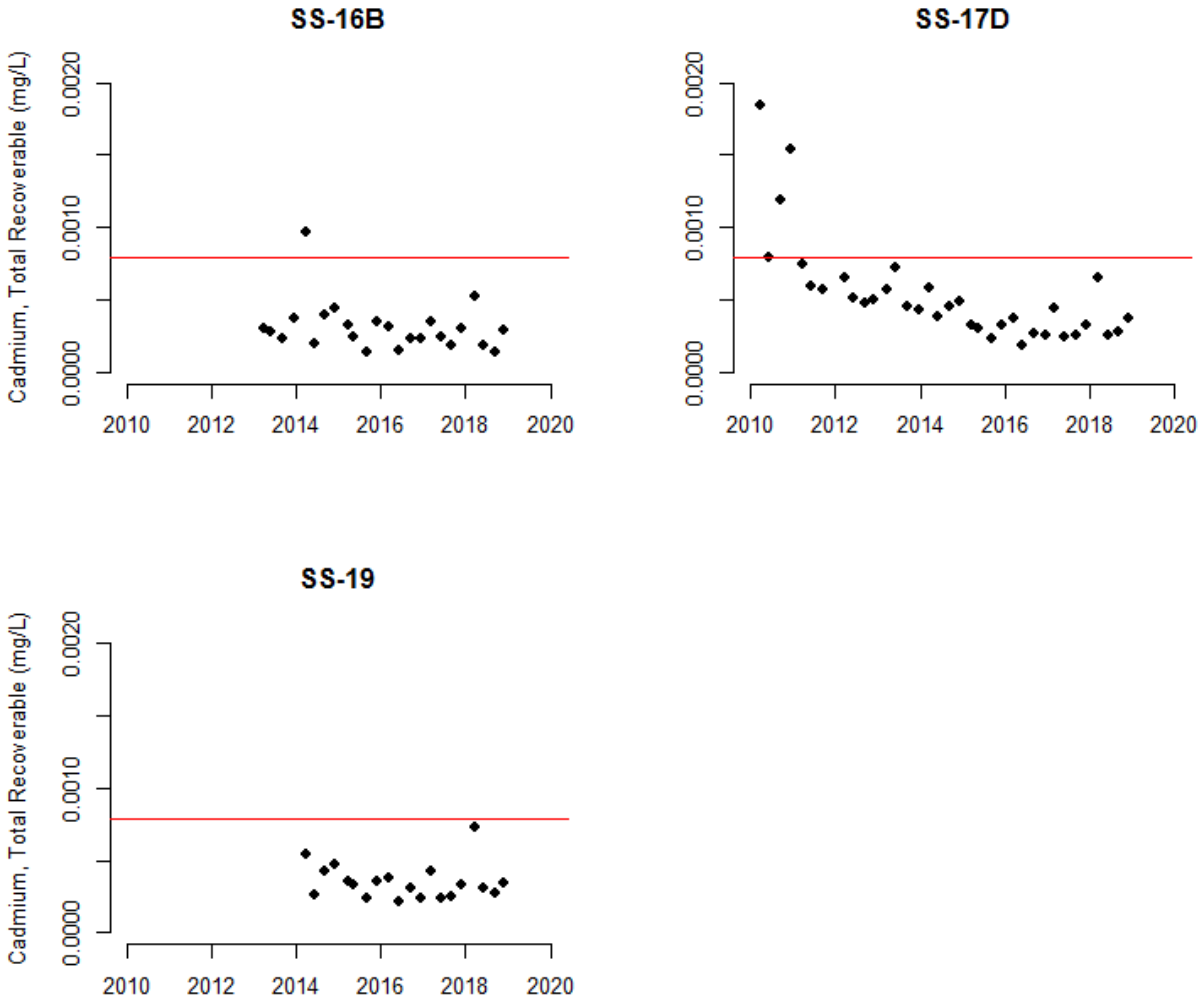

Figure 1-41. Total recoverable cadmium concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

1.4.6.3 Copper

In 2018, total recoverable copper concentrations in the SSTOU ranged from 0.0008-0.046 mg/L (Table 1-13). Forty-three samples exceeded the chronic aquatic life standard and 29 also exceeded the acute standard (Table 1-13). Exceedances of the chronic standard occurred in all quarters but were least common in Q3 (Table 1-13). Exceedances of the acute standard also occurred in all quarters but were least common in Q3 and Q4 (Table 1-13). Concentrations were generally elevated in Q1, Q2, and Q4, and lowest in Q3 (Figure 1-42).

Compared to prior monitoring years (2010-2017), total recoverable copper concentrations in 2018 were similar in reference sites (except for Site SS-01 in Q1; Figure 1-43), Subarea 1 sites (Figure 1-44), and Subarea 2 sites (Figure 1-45). In Subarea 3, concentrations decreased sharply between 2010 and 2011 and appear to be declining slowly since then at both sites although Q1 and Q2 2018 concentrations were relatively high compared to recent trends (Figure 1-46). In Subarea 4, no trend is apparent at sites monitored only since 2013, but at Opportunity (Site SS-17D which has been monitored since 2010), a sharp decrease occurred between 2011 and 2012 and concentrations appear to be slowly declining since then (Figure 1-47). As with the Subarea 3 sites, Q1 and Q2 2018 concentrations were relatively high at Site SS-17D (Figure 1-47).

Table 1-13. Total recoverable copper concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.038	0.010	0.002	0.003
SS-05A	Silver Bow Creek above Butte Reduction Works	0.018	0.014	0.004	0.015
SS-06G	Silver Bow Creek above Butte WWTP	0.013	0.015	0.007	0.012
SS-07	Silver Bow Creek below Butte WWTP	0.011	0.014	0.006	0.011
SS-08	Silver Bow Creek at Rocker	0.016	0.020	0.010	0.017
SS-10A	Silver Bow Creek above Sand Creek	0.035	0.036	0.027	0.046
SS-11C	Silver Bow Creek above Browns Gulch	0.029	0.037	0.022	0.033
SS-11D	Silver Bow Creek below Browns Gulch	0.027	0.028	0.020	0.030
SS-13	Silver Bow Creek in Reach L	0.027	0.029	0.018	0.024
SS-14	Silver Bow Creek at Miles Crossing	0.029	0.038	0.016	0.023
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.037	0.027	0.016	0.021
SS-15G	German Gulch near confluence	0.001	0.002	0.0008[J]	0.001
SS-15B	Silver Bow Creek below German Gulch	0.029	0.018	0.013	0.016
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.035	0.019	0.013	0.016
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.040	0.041	0.016	0.018
SS-19	Silver Bow Creek at Frontage Road	0.042	0.025	0.016	0.018

J — Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 25 percent.

Exceeds the chronic aquatic life standard [DEQ, 2017].

Exceeds the acute aquatic life standard [DEQ, 2017].

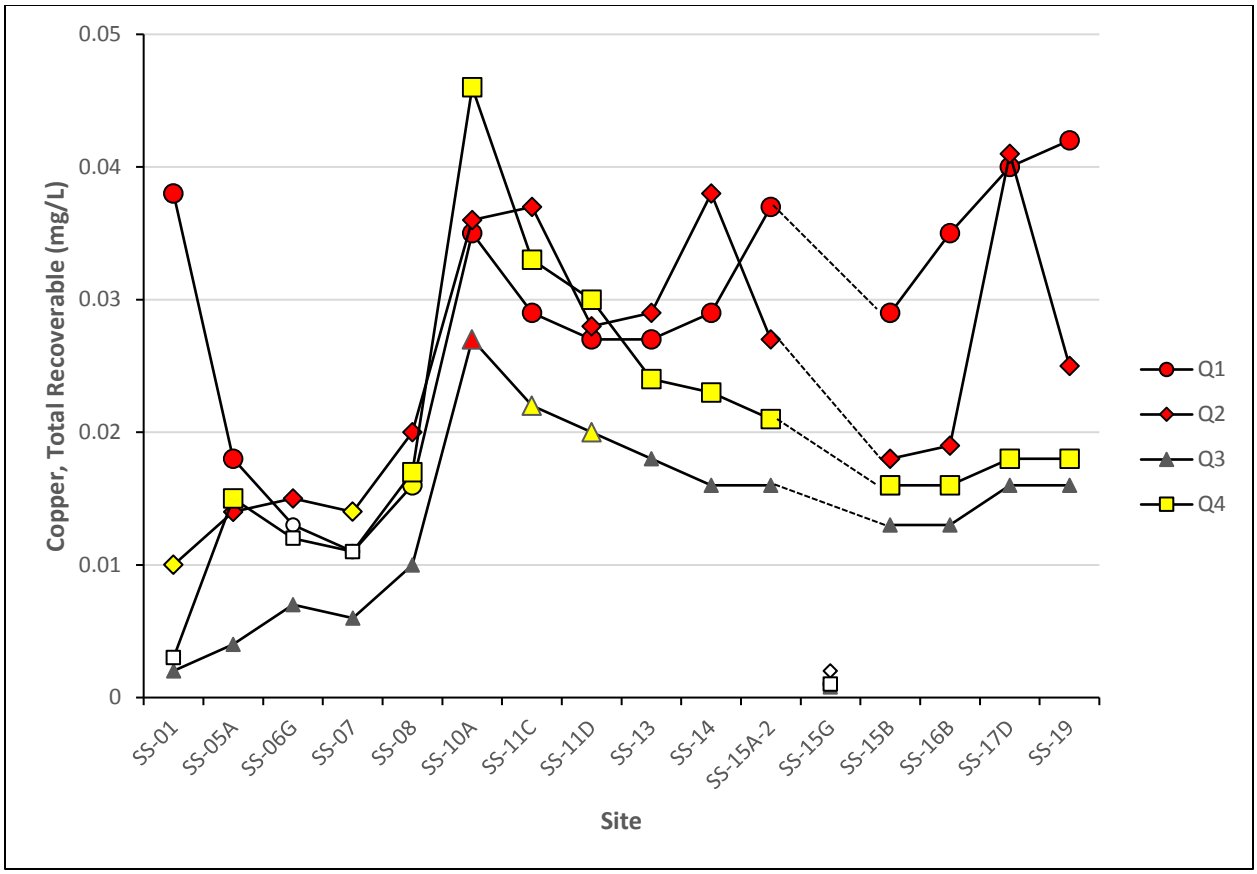

Figure 1-42. Total recoverable copper concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. Colored symbols represent samples exceeding the chronic (yellow) and acute (red) aquatic life standards [DEQ, 2017].

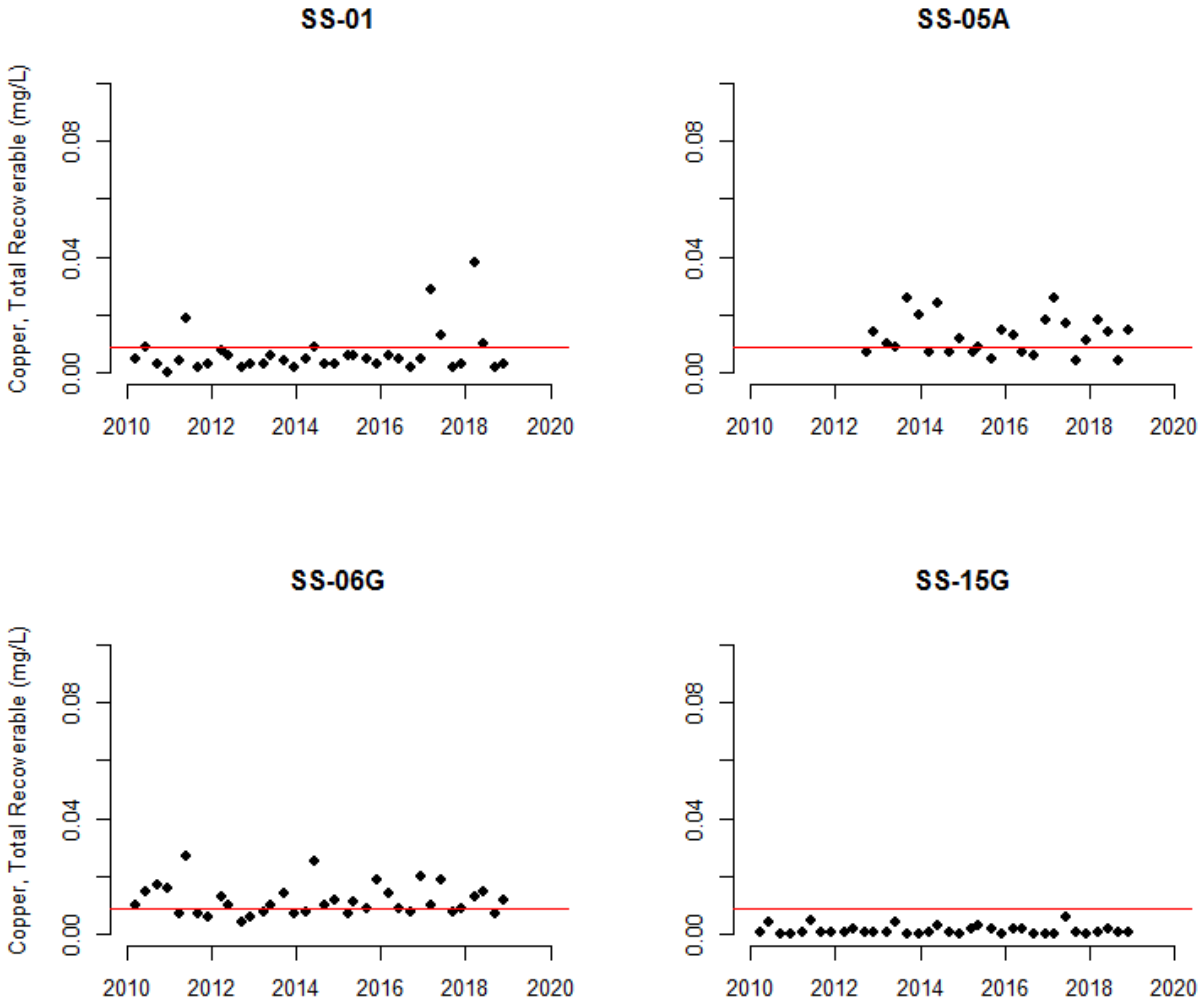

Figure 1-43. Total recoverable copper concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

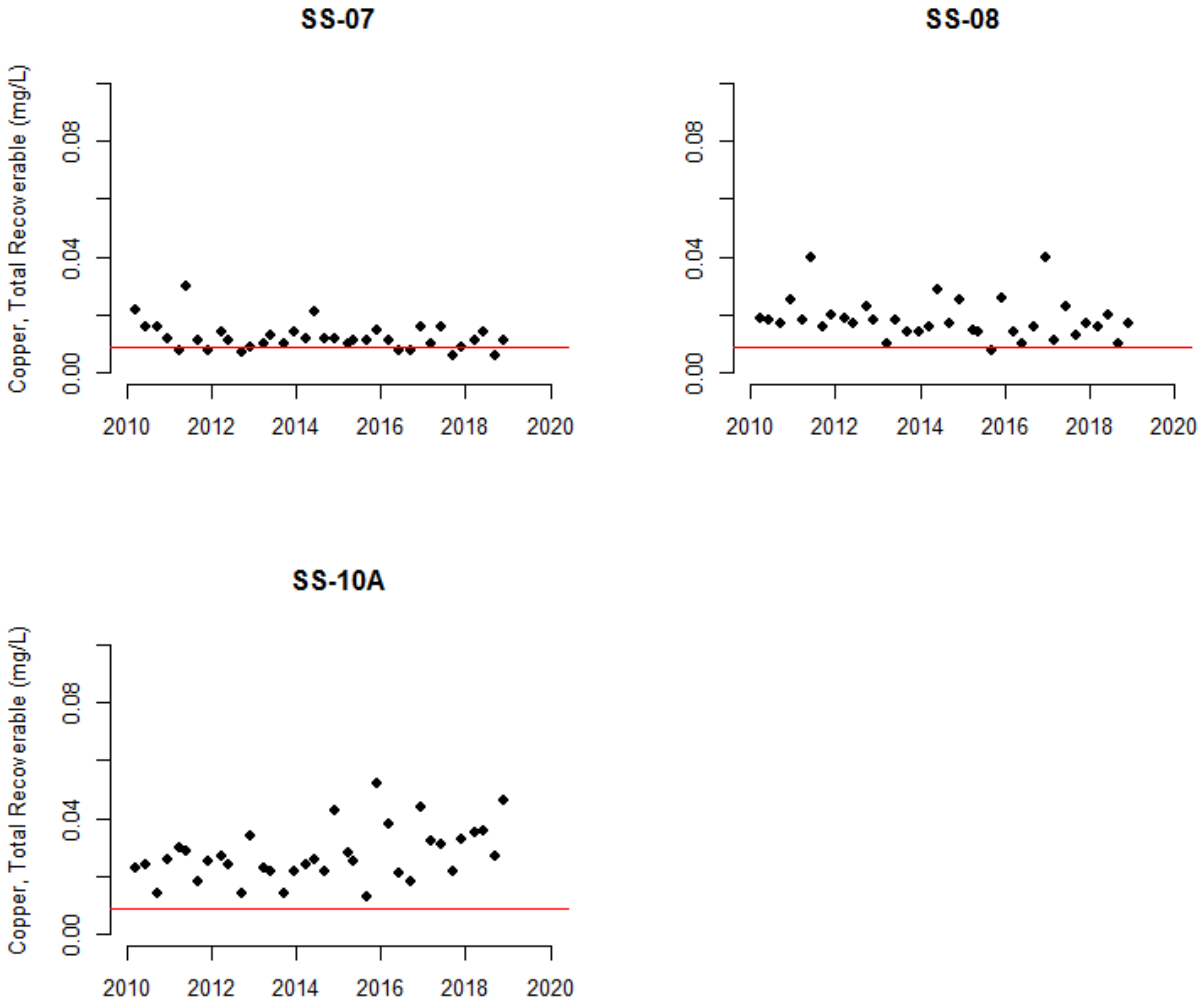

Figure 1-44. Total recoverable copper concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

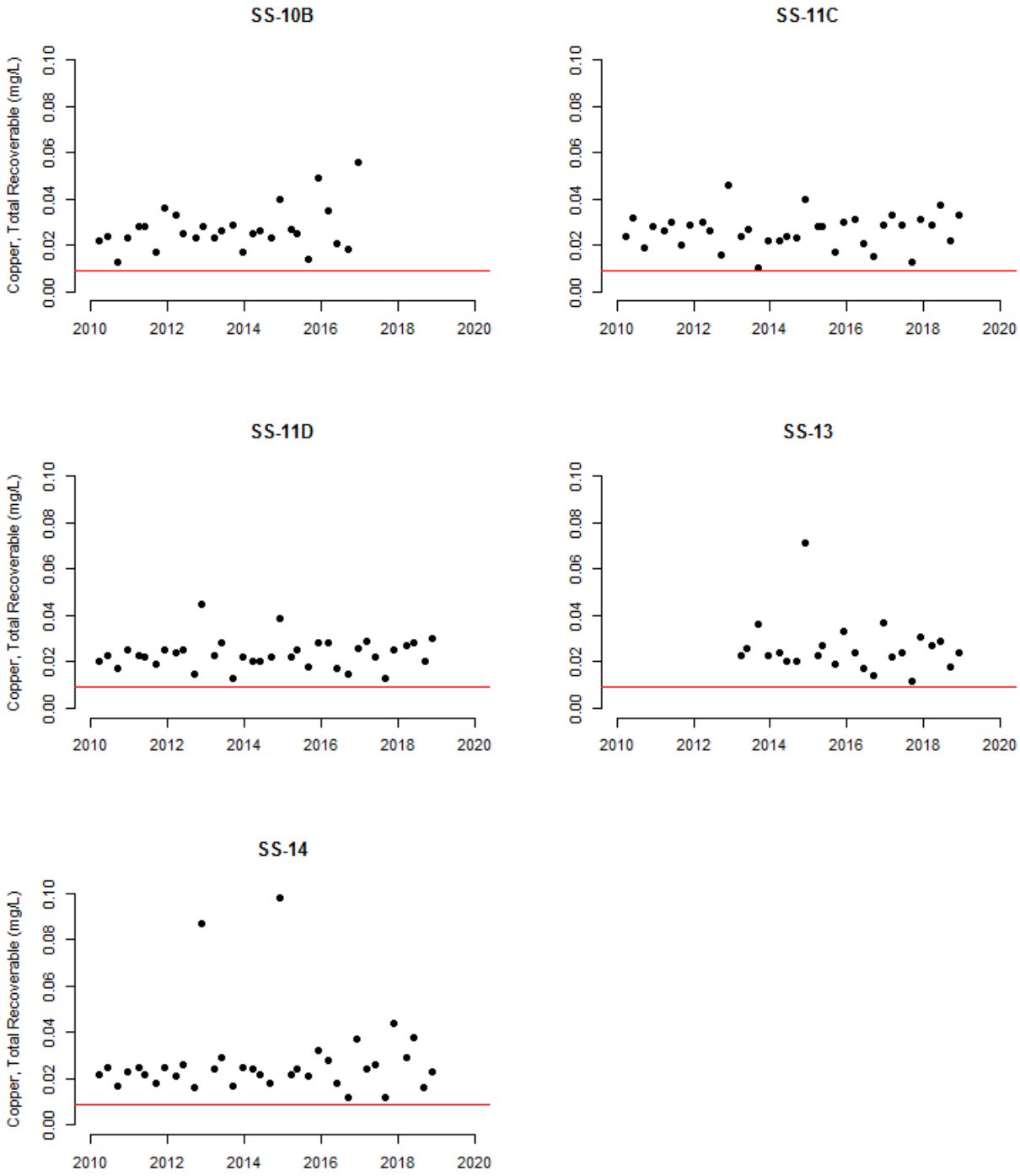

Figure 1-45. Total recoverable copper concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (Site SS-10B), Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

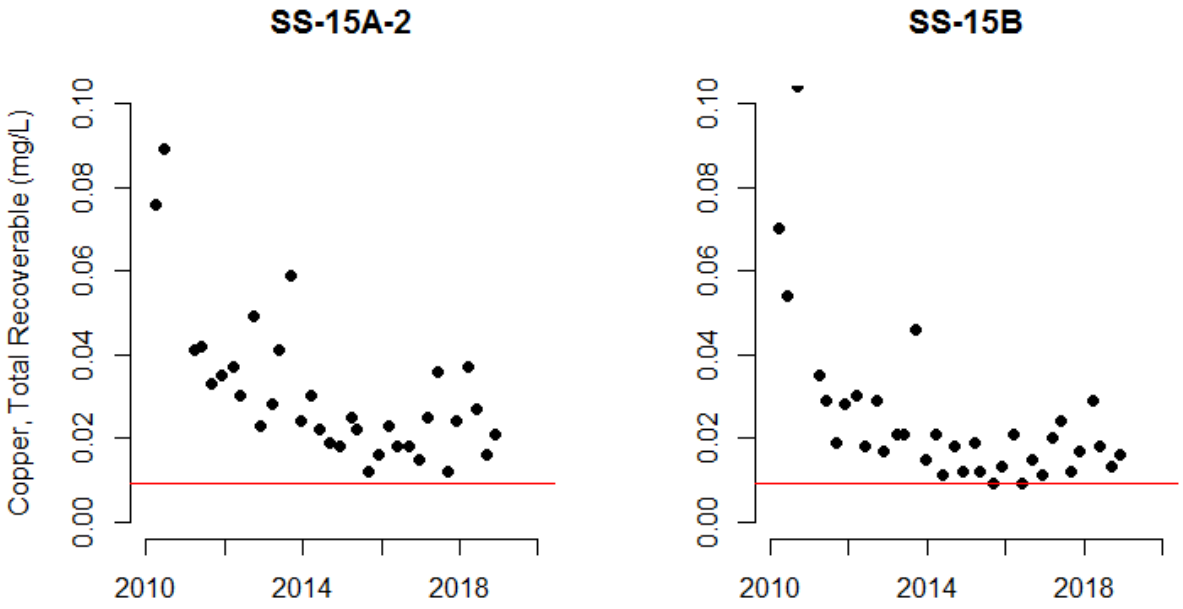

Figure 1-46. Total recoverable copper concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-15A-2)[20],[21] and below (Site SS-15B) [22] German Gulch. Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

[20] Two outliers are not depicted for Site SS-15A-2: 0.131 mg/L on September 14, 2010 and 2.01 mg/L on December 13, 2010.

[21] The scatterplot representing samples at Site SS-15A-2 include samples from Site SS-15A in years prior to 2017. Site SS-15A was relocated approximately 100 m upstream and renamed (Site SS-15A-2) to better represent prevailing conditions in the remediated stream channel in Subarea 3 above German Gulch [see RESPEC, 2018a].

[22] One outlier is not depicted for Site SS-15B: 1.25 mg/L on December 13, 2010.

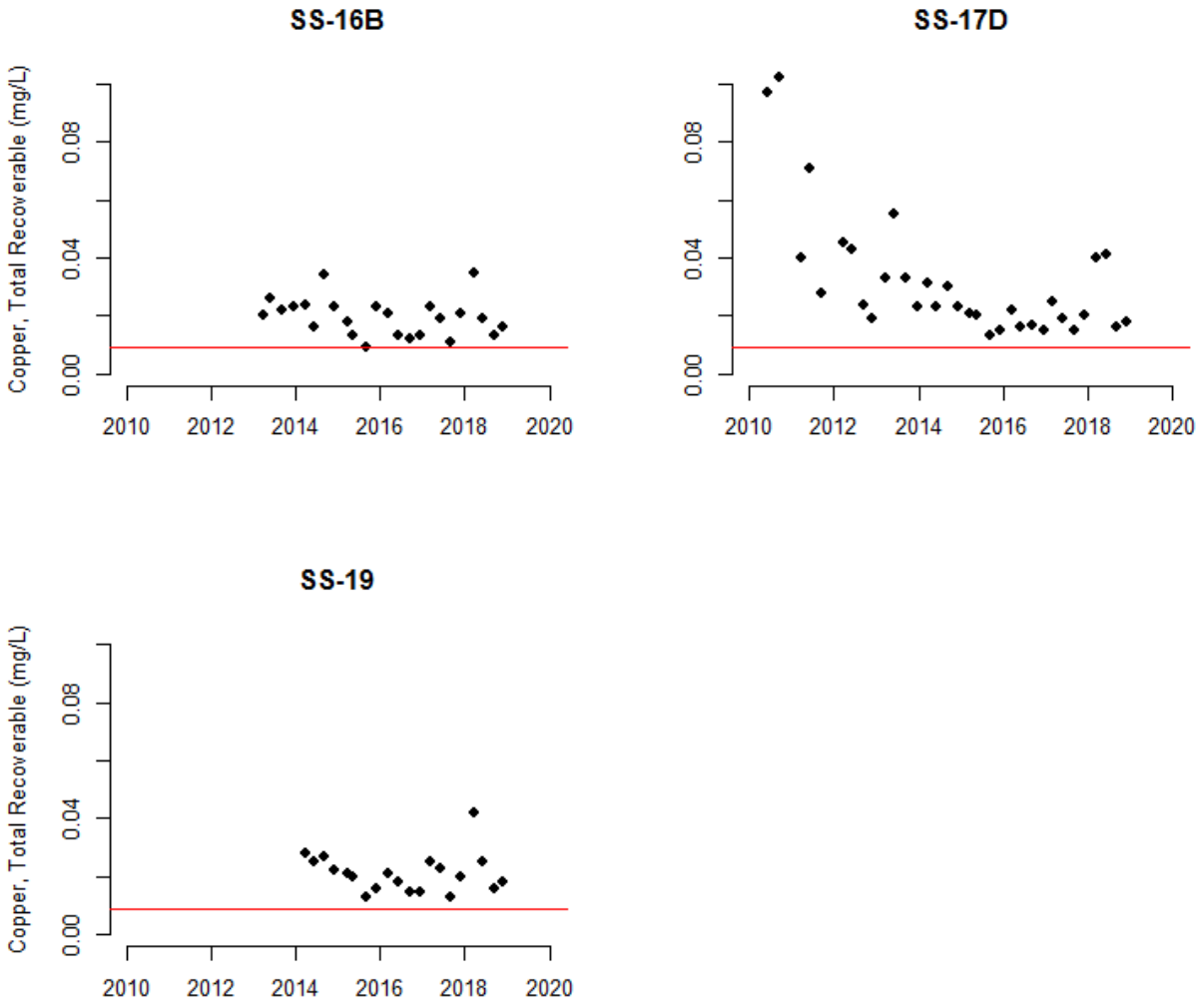

Figure 1-47. Total recoverable copper concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D)[23], and Silver Bow Creek at Frontage Road (Site SS-19). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

[23] Three outliers are not depicted for Site SS-17D: 0.169 mg/L on March 23, 2010, 0.158 mg/L on December 13, 2010, and 0.301 mg/L on November 29, 2011.

1.4.6.4 Lead

In 2018, total recoverable lead concentrations in the SSTOU ranged from <0.00004-0.0164 mg/L (Table 1-14). Five samples had concentrations exceeding the chronic aquatic life standard: 2 samples collected in Q1, 2 samples collected in Q2, and 1 sample collected in Q4 (Table 1-14). Three samples had particularly elevated concentrations in 2018 relative to others; specifically, the samples from Sites SS-01 and SS-05A in Q1 and from Site SS-17D in Q2 (Figure 1-48). Seasonally, concentrations at most sites in 2018 tended to be highest in Q1 and Q2, but there were multiple local deviations from that seasonal trend (Figure 1-48).

Compared to prior monitoring years (2010-2017), total recoverable lead concentrations in reference sites were generally similar to prior years although the Q1 2018 concentration in Blacktail Creek at Father Sheehan Park (Site SS-01) and Silver Bow Creek above the Butte Reduction Works (Site SS-05A) were relatively high (Figure 1-49). Similarly, concentrations at those sites in Q1 2017 were also elevated (Figure 1-49). Concentrations at sites in Subareas 1, 2, and 3 were generally consistent with recent trends which appeared to be generally flat in Subareas 1 and 2 and declining in Subarea 3 since 2010 (Figure 1-50; Figure 1-51; Figure 1-52). In Subarea 4, concentrations have been consistent at sites monitored only since 2013 (i.e., Sites SS-16B and SS-19), but at Opportunity (monitored since 2010) concentrations decreased have decreased since 2013 although the Q2 2018 were high compared to recent results (Figure 1-53).

Table 1-14. Total recoverable lead concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.0106	0.0010	0.00021[J]	0.0006
SS-05A	Silver Bow Creek above Butte Reduction Works	0.0164	0.0019	0.0006	0.0044
SS-06G	Silver Bow Creek above Butte WWTP	0.0020	0.0021	0.0006	0.0020
SS-07	Silver Bow Creek below Butte WWTP	0.0010	0.0021	0.0005	0.0018
SS-08	Silver Bow Creek at Rocker	0.0020	0.0028	0.0037	0.0061
SS-10A	Silver Bow Creek above Sand Creek	0.0030	0.0025	0.0007	0.0023
SS-11C	Silver Bow Creek above Browns Gulch	0.0026	0.0023	0.0006	0.0009
SS-11D	Silver Bow Creek below Browns Gulch	0.0028	0.0026	0.0037	0.0009
SS-13	Silver Bow Creek in Reach L	0.0027	0.0028	0.0007	0.0009
SS-14	Silver Bow Creek at Miles Crossing	0.0026	0.0027	0.0005	0.0007
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.0038	0.0027	0.0004	0.0007
SS-15G	German Gulch near confluence	0.00027[J]	0.0003	ND	0.00007[J]
SS-15B	Silver Bow Creek below German Gulch	0.0030	0.0018	0.0004	0.0005
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.0039	0.0024	0.0005	0.0008
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.0051	0.0154	0.0009	0.0011
SS-19	Silver Bow Creek at Frontage Road	0.0041	0.0035	0.0011	0.0012

ND	Not detected at method detection limit.
J	Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 25 percent.
	Exceeds the chronic aquatic life standards [DEQ, 2017].

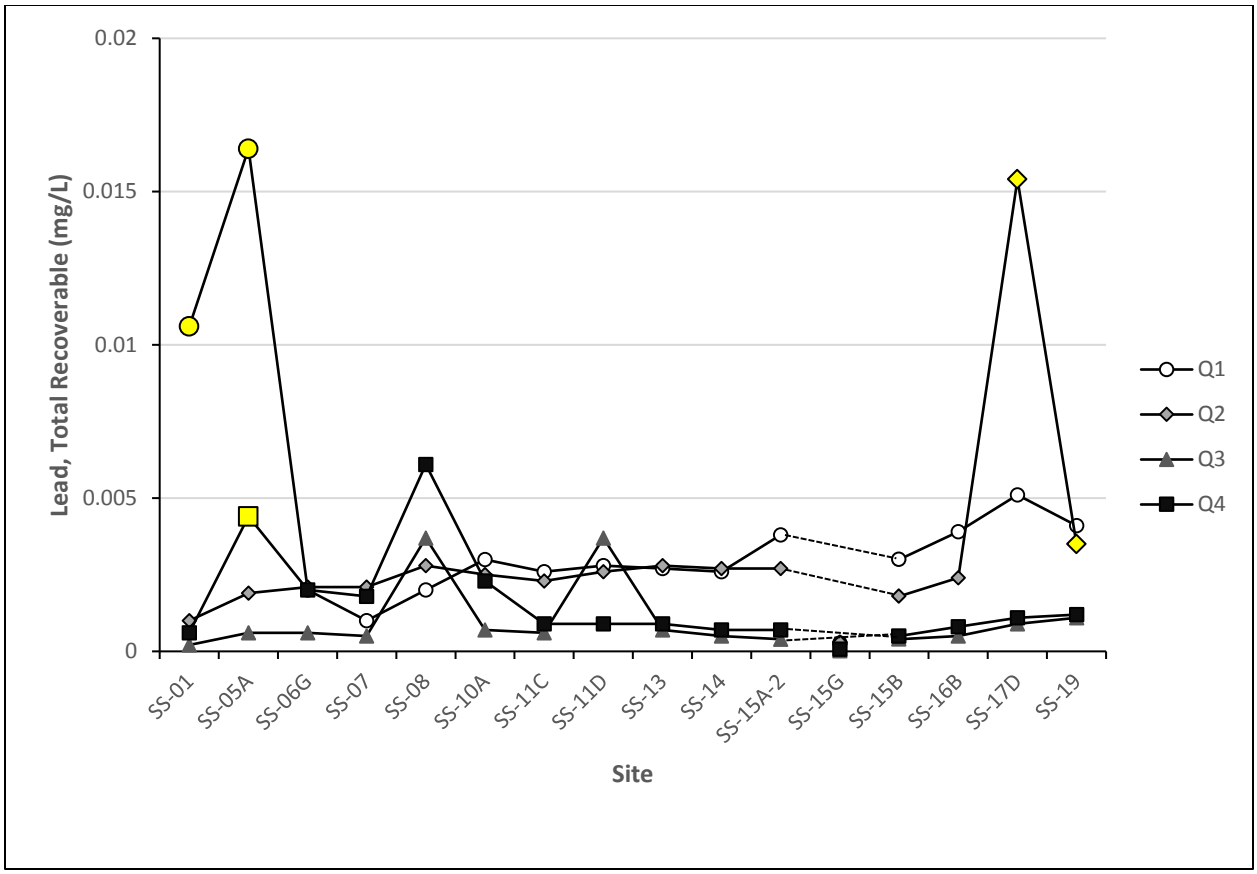

Figure 1-48. Total recoverable lead concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. Yellow symbols represent samples exceeding the chronic aquatic life standard [DEQ, 2017].

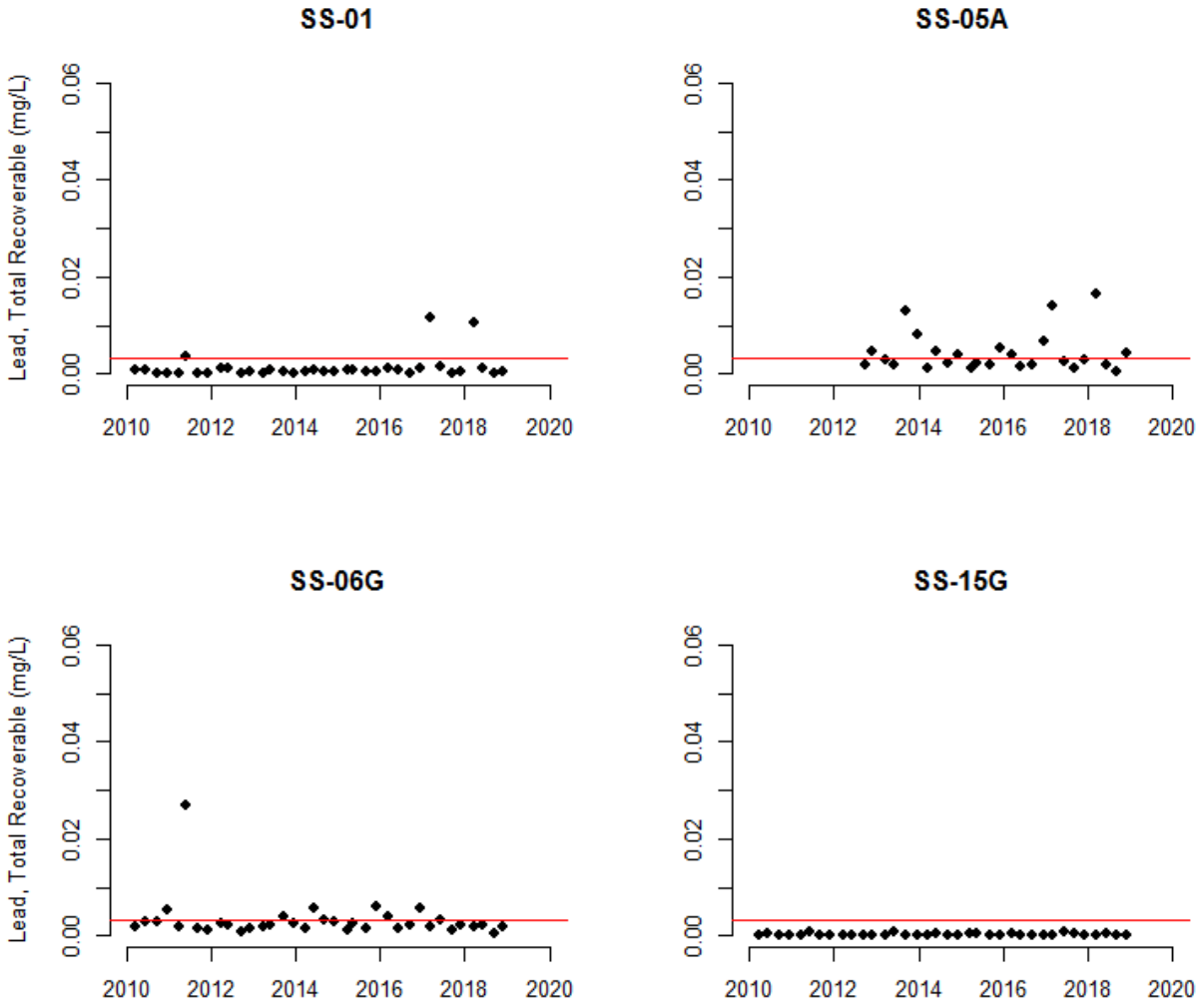

Figure 1-49. Total recoverable lead concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

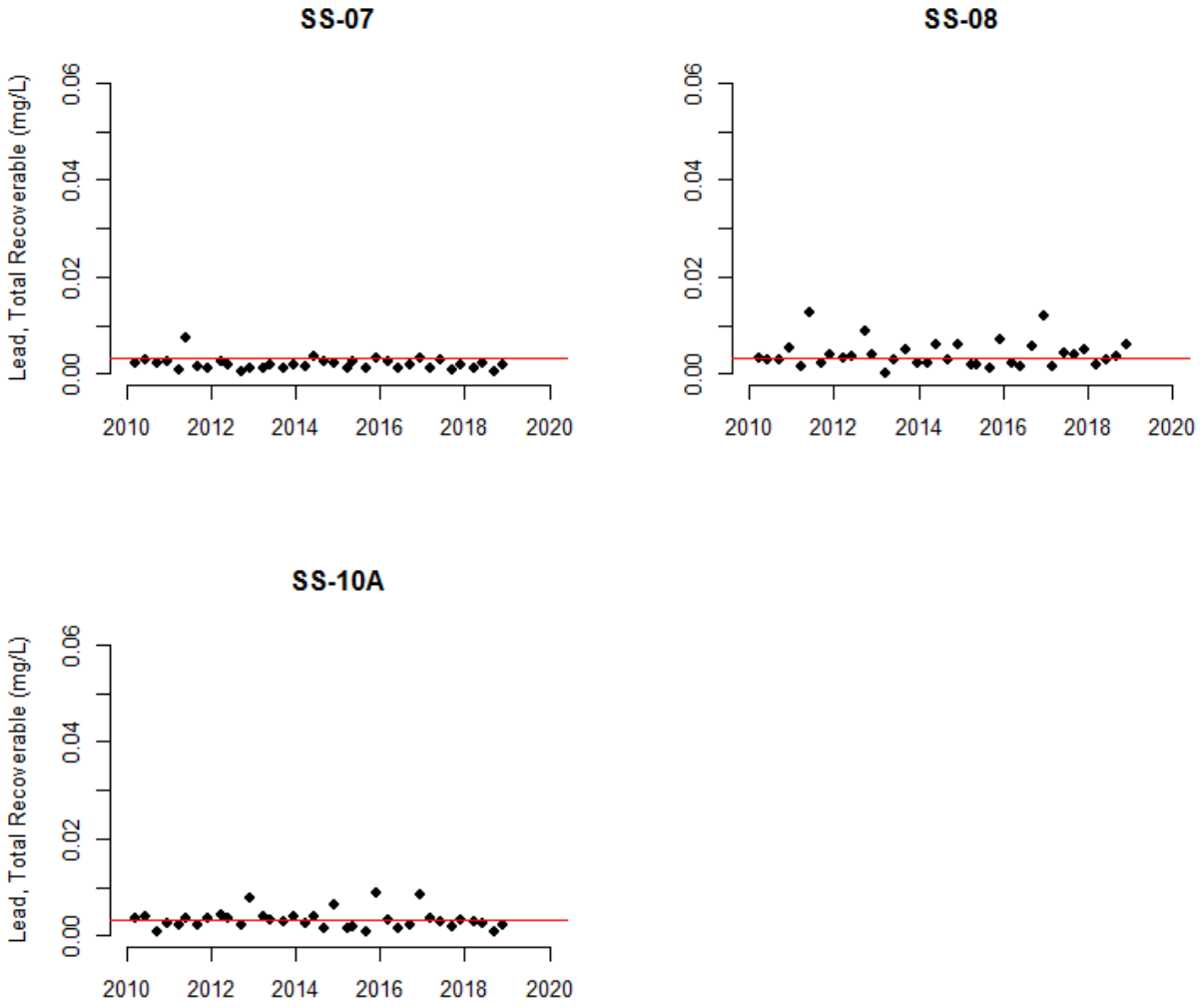

Figure 1-50. Total recoverable lead concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

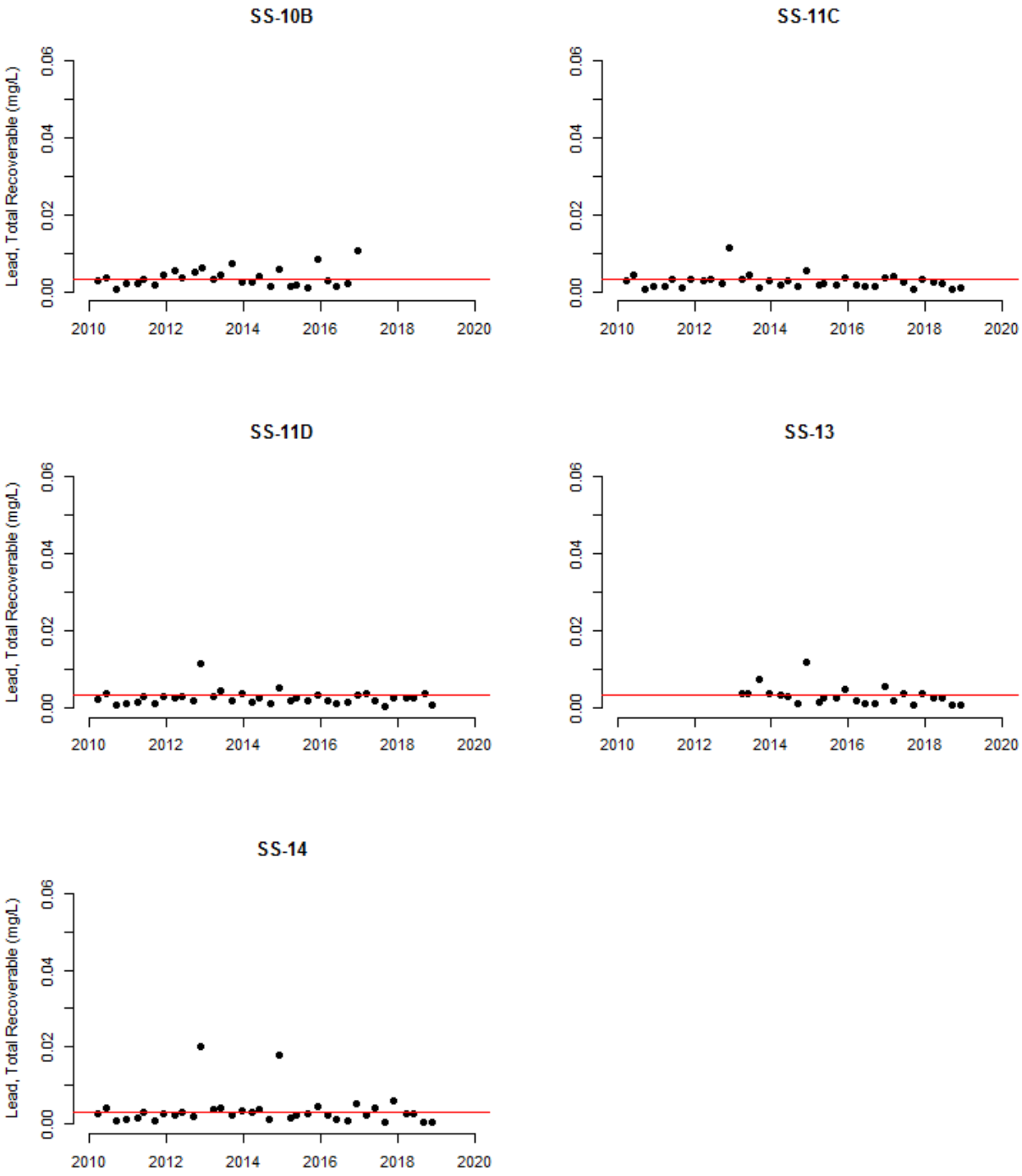

Figure 1-51. Total recoverable lead concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (Site SS-10B), Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

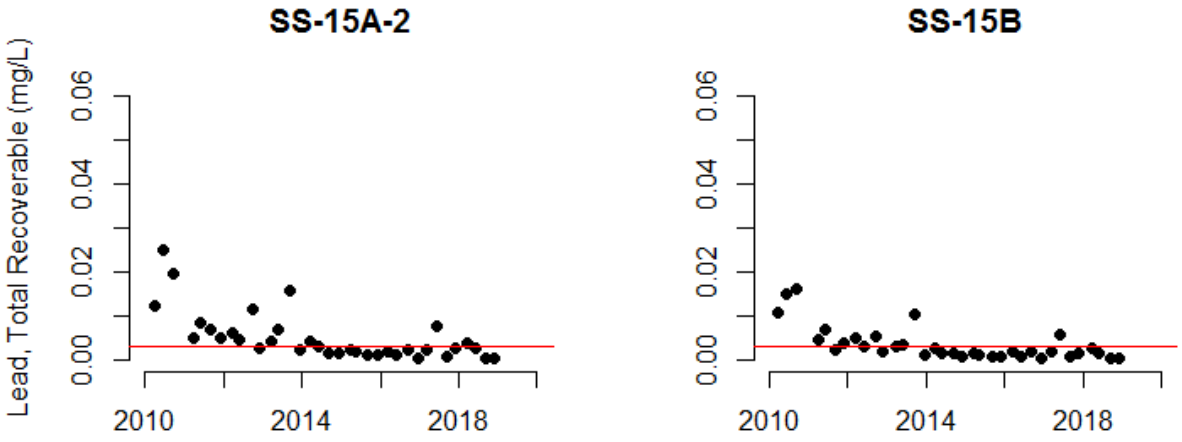

Figure 1-52. Total recoverable lead concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-15A-2) and below (Site SS-15B) German Gulch. Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].[24, 25]

[24] Two outliers are not depicted: 0.785 mg/L at SS-15A and 0.435 mg/L at SS-15B on December 13, 2010.

[25] The scatterplot representing data at Site SS-15A-2 includes data from Site SS-15A in years prior to 2017. Site SS-15A was relocated approximately 100 m upstream and renamed (Site SS-15A-2) to better represent prevailing conditions in the remediated stream channel in Subarea 3 above German Gulch [see RESPEC, 2018a].

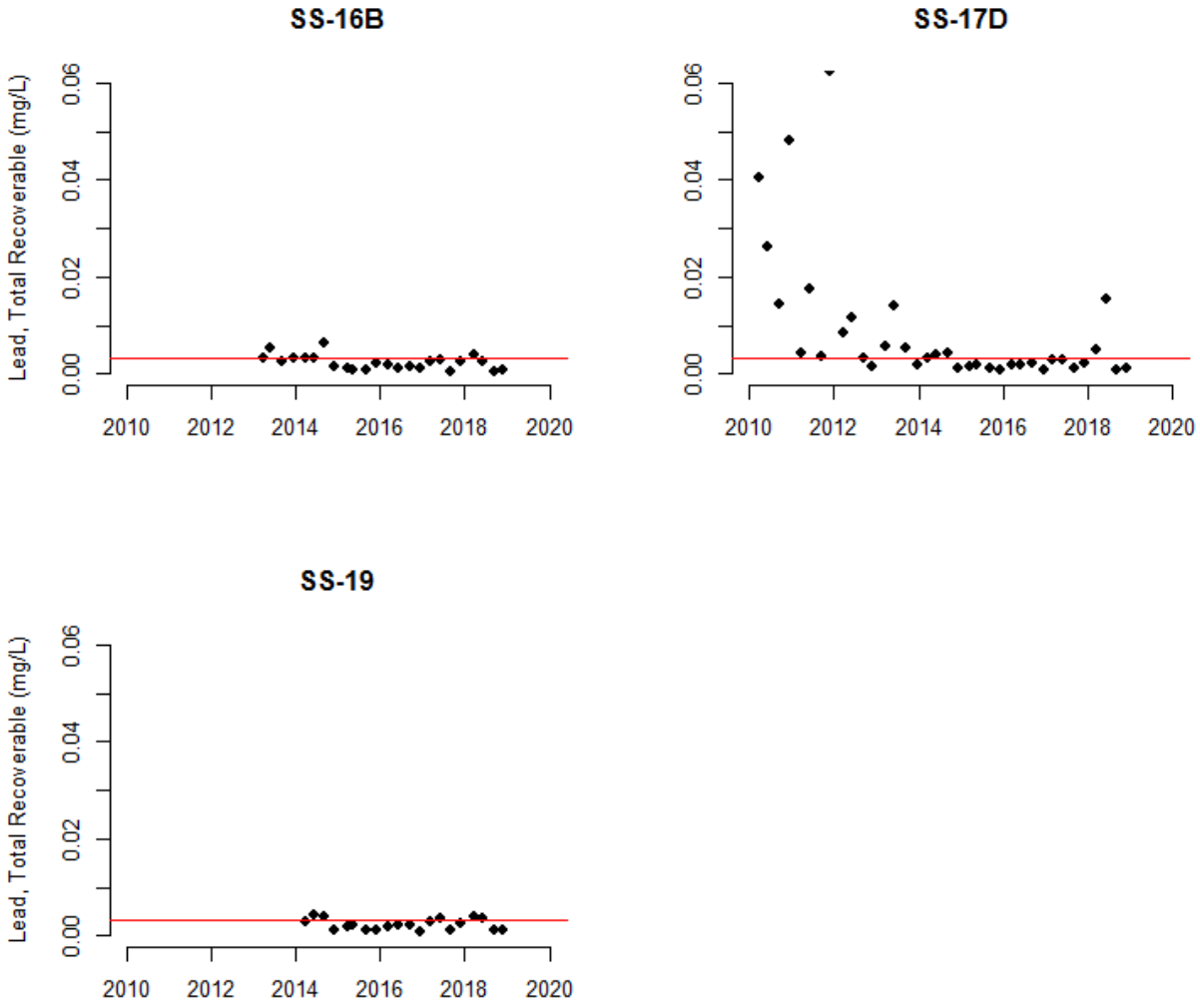

Figure 1-53. Total recoverable lead concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [DEQ, 2017].

1.4.6.5 Mercury

In 2018, total recoverable mercury concentrations in the SSTOU ranged from <0.001-0.037 µg/L (Table 1-15). Twenty-two samples exceeded the 0.012 µg/L chronic aquatic life standard (Table 1-15). Concentrations were generally lowest in Q3 although concentrations were highly variable among sites and monitoring periods, particularly in the Subarea 1 and 2 sites (i.e., Sites SS-07, SS-08, SS-10A, SS-11C, SS-11D, SS-13, and SS-14) (Figure 1-54). Concentrations were highest in the upstream-most sites (reference Sites SS-01 and SS-05A) and in the downstream-most sites (Sites SS-17D and SS-19) during Q1 (Figure 1-54). For comparison with regional streams with well-known mercury contamination, the highest total recoverable mercury concentration observed in the SSTOU in 2018 (0.037 µg/L) was an order of magnitude lower than the highest concentration observed in Flint Creek in 2018 (0.640 µg/L) on May 9, 2018; RESPEC [2018a]). Flint Creek is also a tributary to the Clark Fork River.

Long-term trends (2010-2017) for total recoverable mercury concentrations are difficult to discern at many sites because the reporting limits prior to 2014 were high (at least 0.050 µg/L) which is more than four times higher than the SSTOU performance goal (Table 1-1). Prior to lowering the reporting limits in 2014, the majority of samples in reference sites (Figure 1-55), Subarea 1 sites (Figure 1-56), Subarea 2 sites (Figure 1-57), and Site SS-15B in Subarea 3 (Figure 1-58) had concentrations below the 0.050 µg/L reporting limit which renders those data to be of limited use for identifying temporal trends (particularly downward trends) from 2010-2018. Despite the high mercury reporting limits, for the pre-2014 samples, concentrations at some sites appear to have decreased through time, specifically: Silver Bow Creek in Reach L (Site SS-13) particularly from 2013 to 2017 (Figure 1-57), Silver Bow Creek above German Gulch (Site SS-15A-2) (Figure 1-58), Silver Bow Creek at Fairmont (Site SS-16B) (Figure 1-59), and Silver Bow Creek at Opportunity (Site SS-17D) (Figure 1-59).

Table 1-15. Total recoverable mercury concentrations (µg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.0370	0.0079	ND	0.0049[J]
SS-05A	Silver Bow Creek above Butte Reduction Works	0.0366	0.0101	0.0014[J]	0.0100
SS-06G	Silver Bow Creek above Butte WWTP	0.0074	0.0108	0.0028[J]	0.0070
SS-07	Silver Bow Creek below Butte WWTP	0.0043[J]	0.0091	0.0024[J]	0.0080
SS-08	Silver Bow Creek at Rocker	0.0064	0.0121	0.0151	0.0220
SS-10A	Silver Bow Creek above Sand Creek	0.0142	0.0109	0.0053	0.0120
SS-11C	Silver Bow Creek above Browns Gulch	0.0216	0.0098	0.0050	0.0070
SS-11D	Silver Bow Creek below Browns Gulch	0.0148	0.0117	0.0167	0.0090
SS-13	Silver Bow Creek in Reach L	0.0192	0.0179	0.0047[J]	0.0080
SS-14	Silver Bow Creek at Miles Crossing	0.0194	0.0133	0.0036[J]	0.0060
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.0181	0.0151	0.0039[J]	0.0070
SS-15G	German Gulch near confluence	0.0023[J]	0.0040[J]	ND	0.0038[J]
SS-15B	Silver Bow Creek below German Gulch	0.0157	0.0112	0.0035[J]	0.0050
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.0267	0.0157	0.0039[J]	0.0070
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.0338	0.0207	0.0083	0.0080
SS-19	Silver Bow Creek at Frontage Road	0.0366	0.0231	0.0088	0.0100

ND — Not detected at method detection limit.

J — Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 25 percent.

Exceeds the chronic aquatic life standard [MDHES, 1994].

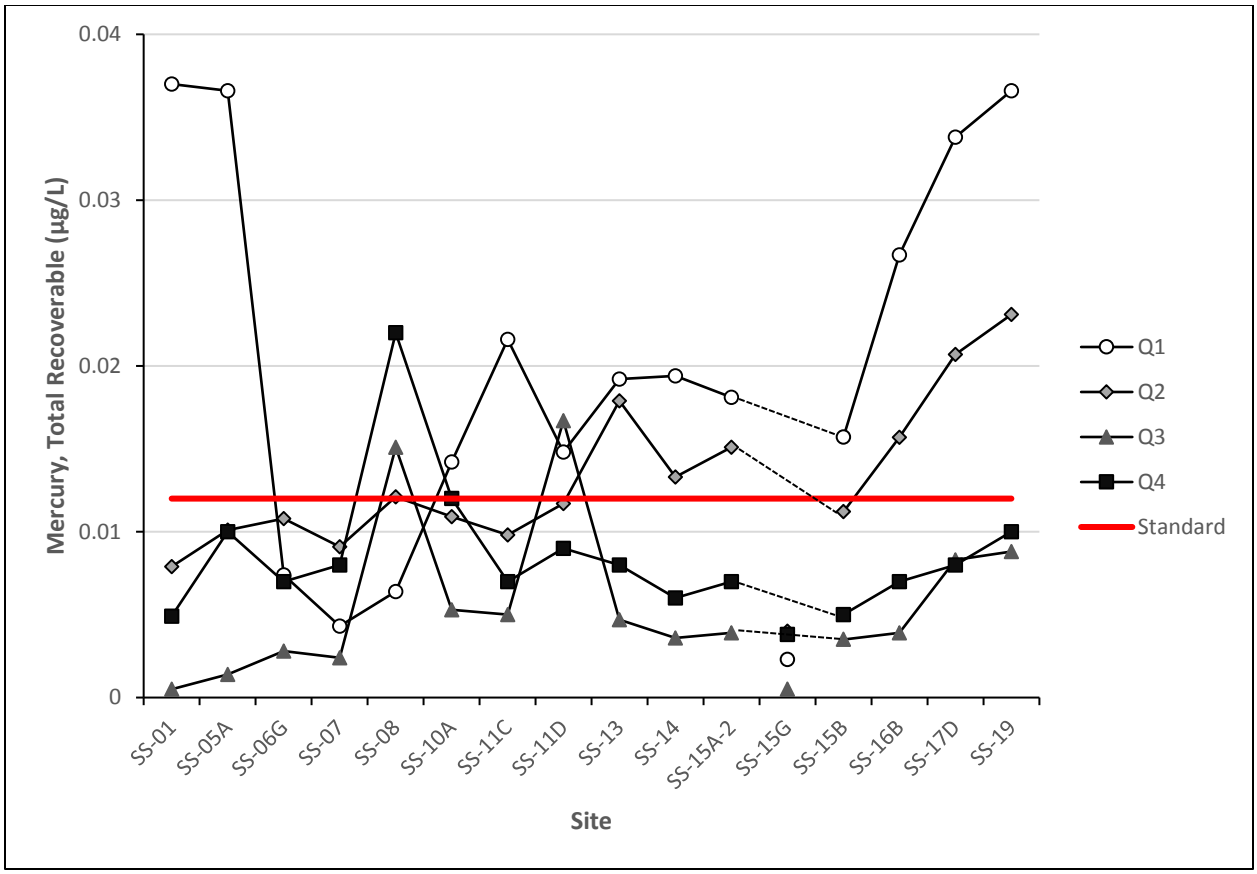

Figure 1-54. Total recoverable mercury concentrations at Streamside Tailings Operable Unit monitoring stations, 2018. Red line represents the chronic aquatic life standard [MDHES, 1994].

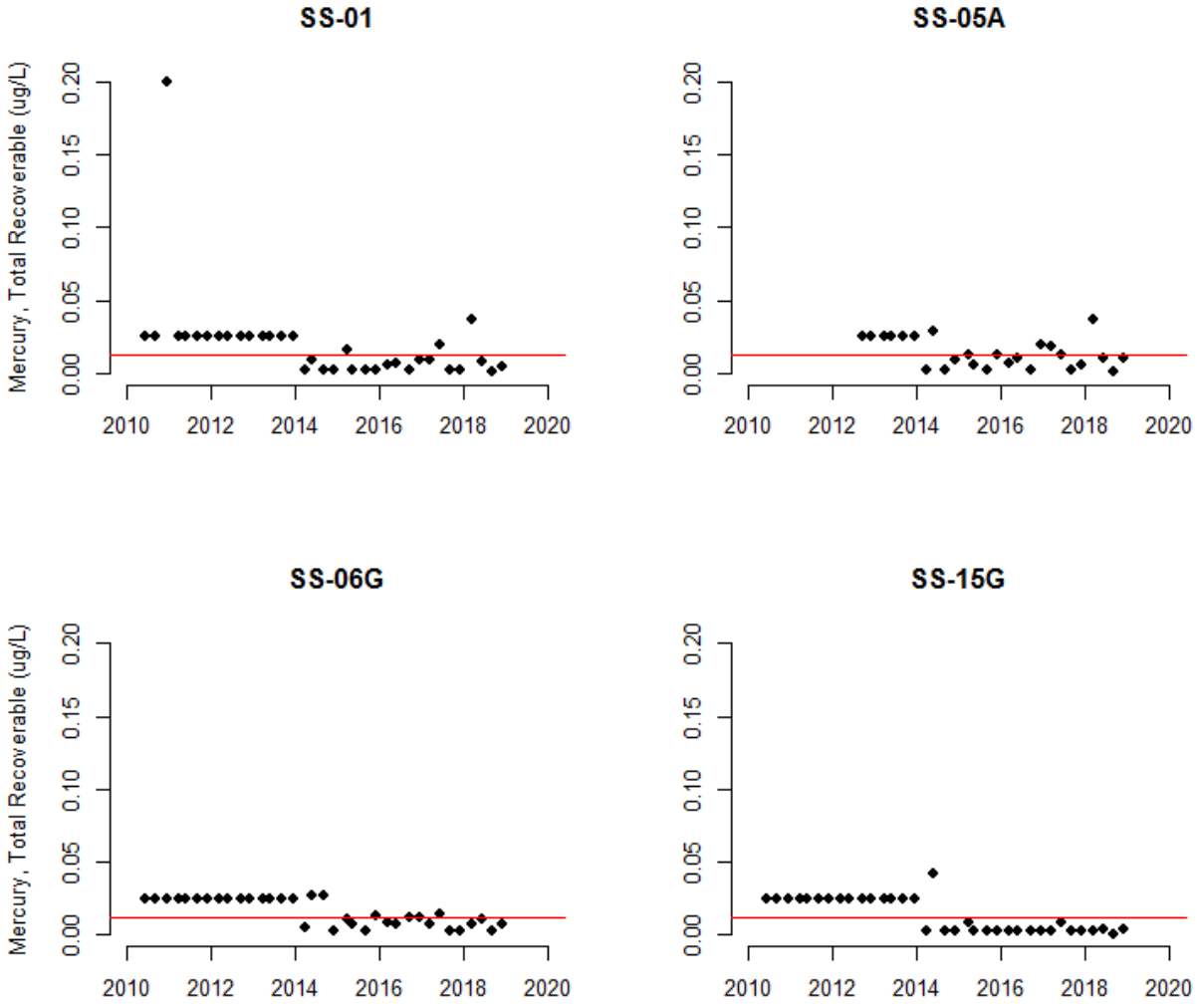

Figure 1-55. Total recoverable mercury concentrations in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Red line represents the chronic aquatic life standard [MDHES, 1994].[26]

[26] Samples collected on March 23, 2010 are not included because the reporting limit was high (1 µg/L).

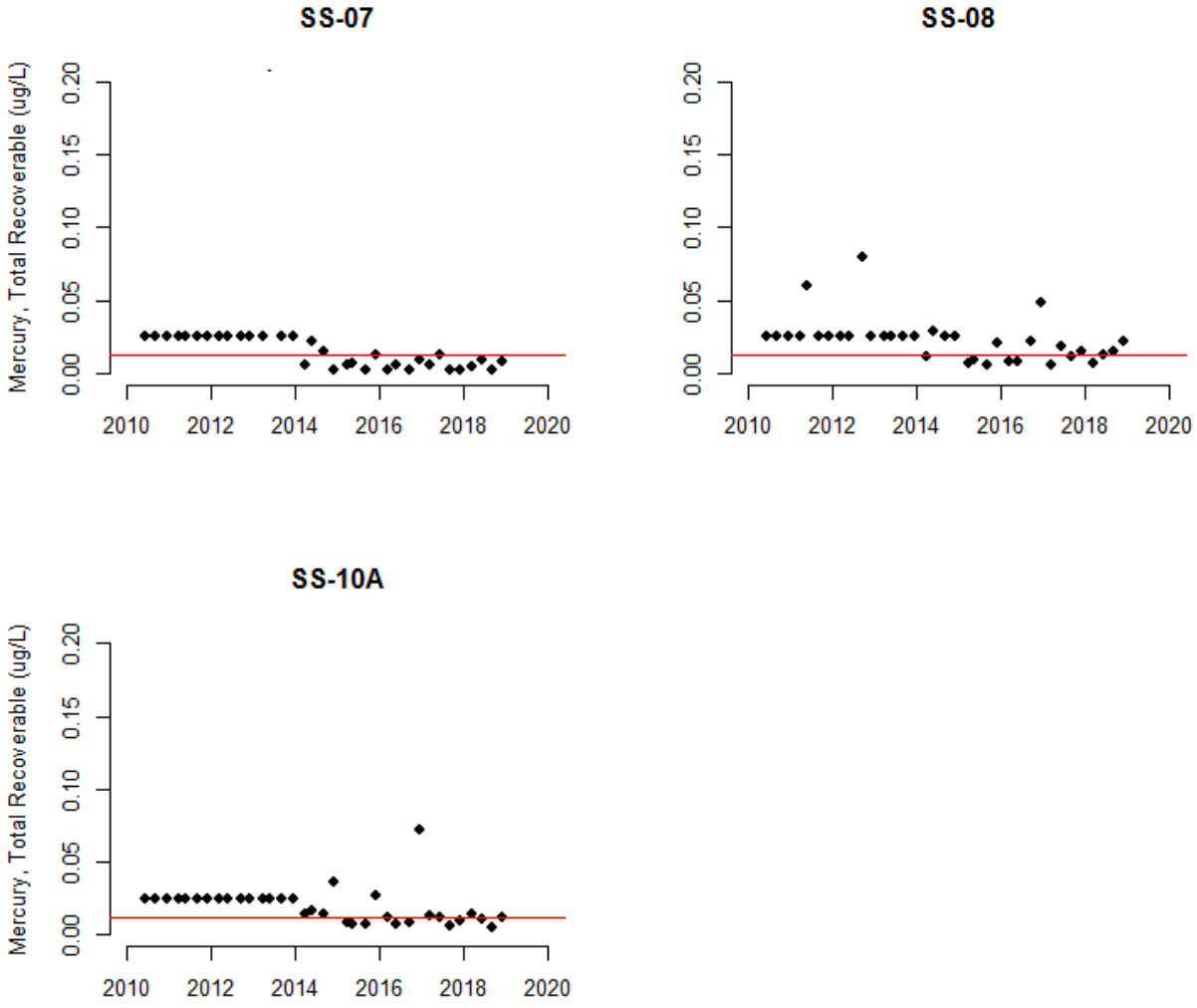

Figure 1-56. Total recoverable mercury concentrations in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Red line represents the chronic aquatic life standard [MDHES, 1994].[27]

[27] Samples collected on March 23, 2010 are not included because the reporting limit was high (1 µg/L).

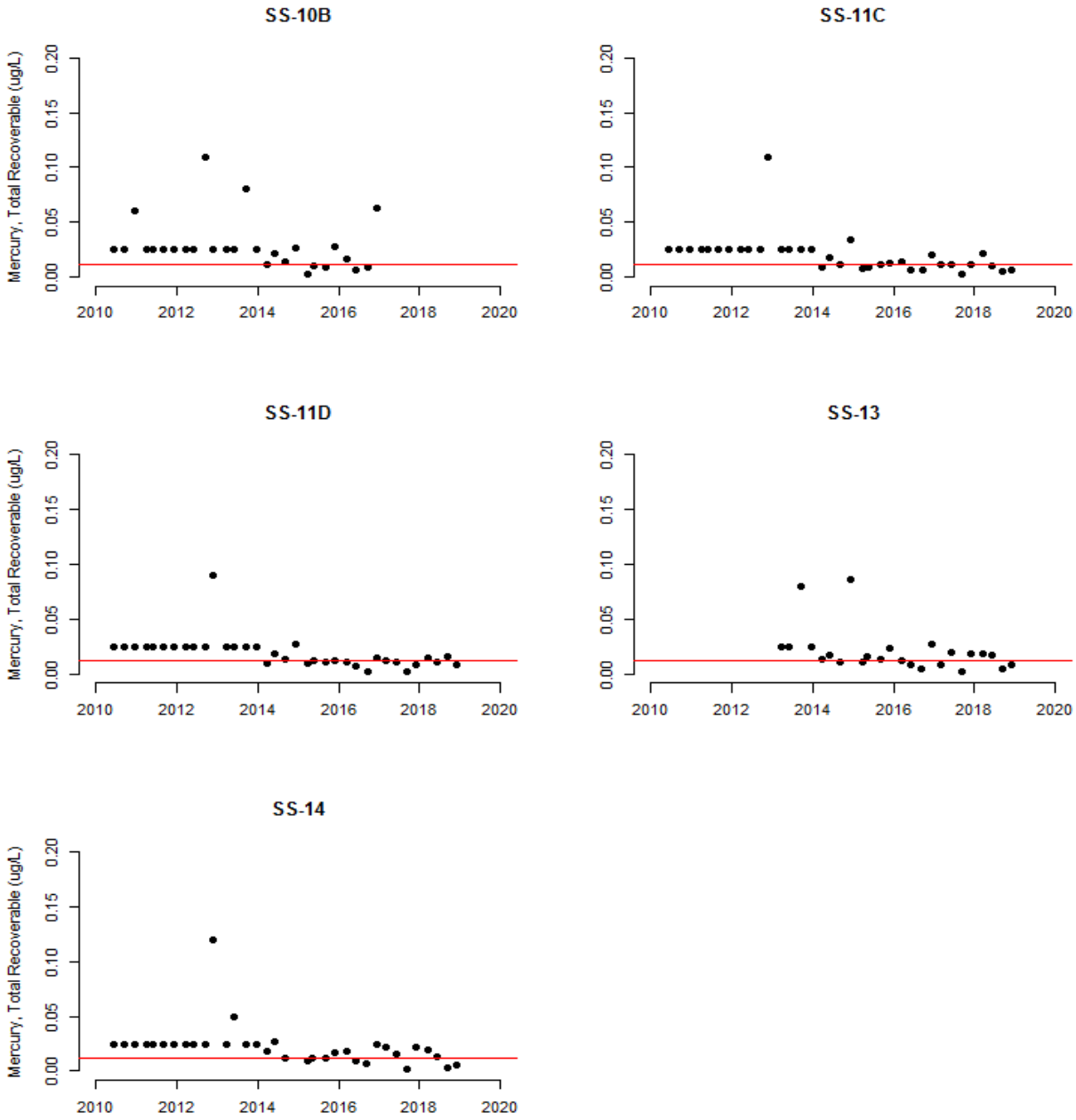

Figure 1-57. Total recoverable mercury concentrations in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (Site SS-10B), Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Red line represents the chronic aquatic life standard [MDHES, 1994].[28] [29]

[28] Samples collected on March 23, 2010 are not included because the reporting limit was high (1 µg/L).

[29] One outlier is not depicted: 0.36 µg/L at Site SS-14 on December 3, 2014.

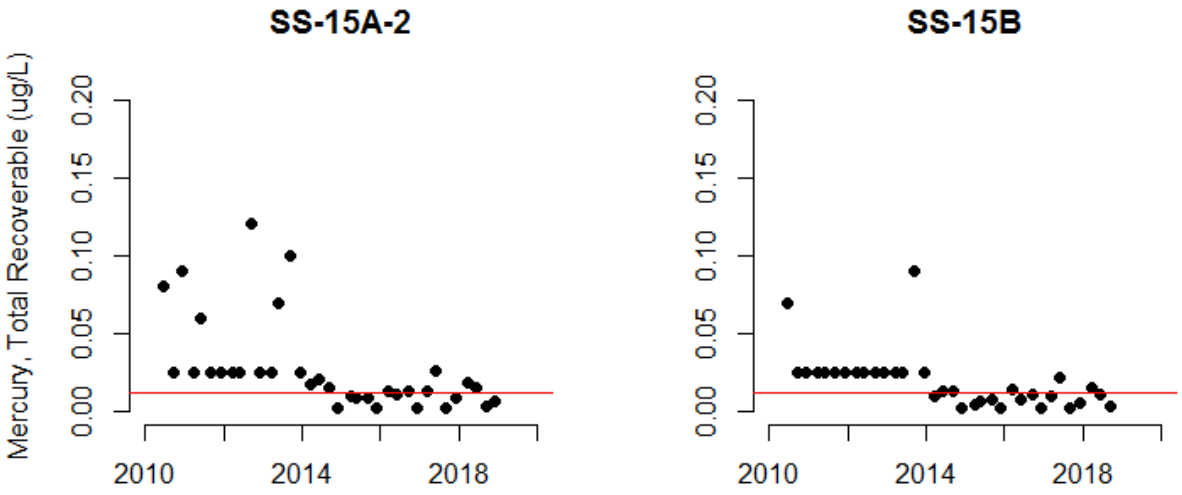

Figure 1-58. Total recoverable mercury concentrations in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-15A-2) and below (Site SS-15B) German Gulch. Red line represents the chronic aquatic life standard [MDHES, 1994].[30]

[30] The scatterplot representing data at Site SS-15A-2 includes data from Site SS-15A in years prior to 2017. Site SS-15A was relocated approximately 100 m upstream and renamed (Site SS-15A-2) to better represent prevailing conditions in the remediated stream channel in Subarea 3 above German Gulch (see RESPEC [2018a]).

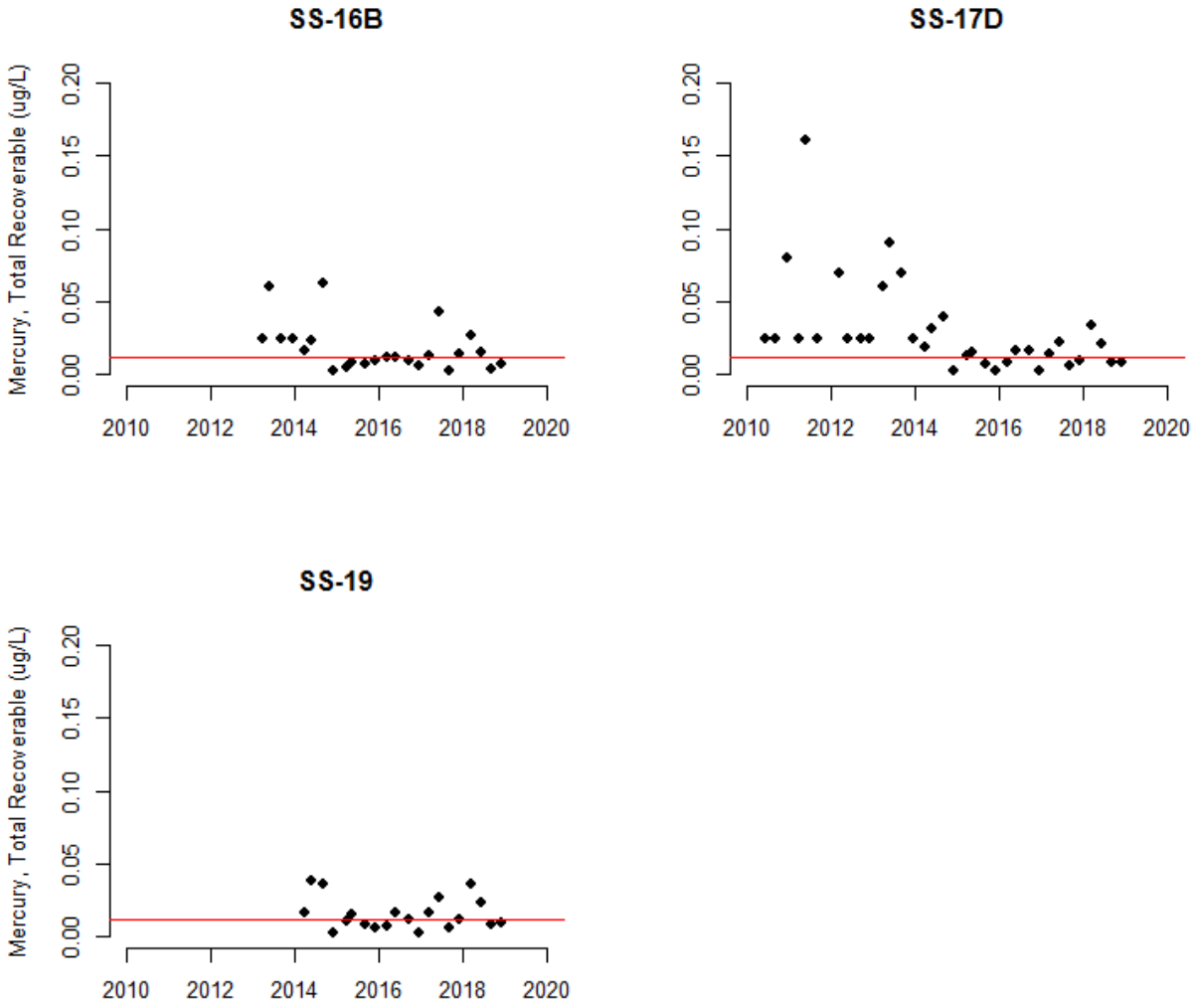

Figure 1-59. Total recoverable mercury concentrations in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Red line represents the chronic aquatic life standard [MDHES, 1994].[31] [32]

[31] Samples collected on March 23, 2010 are not included because the reporting limit was high (1 µg/L).

[32] One outlier is not depicted: 0.34 µg/L at Site SS-17D on November 29, 2011.

1.4.6.6 Zinc

In 2018, total recoverable zinc concentrations in the SSTOU ranged from 0.002-0.176 mg/L (Table 1-16). One sample exceeded the chronic aquatic life standard and another also exceeded the acute standard, both of which were in lower Subarea 4 sites during Q1 (Sites SS-17D and SS-19; Table 1-16; Figure 1-60). Concentrations were generally highest in Q1 or Q4 and lowest in Q2 or Q3 (Figure 1-60).

Compared to prior monitoring years (2010-2017), total recoverable zinc concentrations in 2018 were generally similar in reference sites (Figure 1-61), Subarea 1 sites (Figure 1-62), and Subarea 2 sites (Figure 1-63). In Subarea 3, concentrations appear to be decreasing in both sites since 2011 (Figure 1-64). In Subarea 4, concentrations have been consistent in Silver Bow Creek near Fairmont (SS-16B) and at Frontage Road (SS-19) whereas concentrations at Opportunity (SS-17D) appear to have declined since 2010 (Figure 1-65).

Table 1-16. Total recoverable zinc concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.055	0.008	0.004[J]	0.006[J]
SS-05A	Silver Bow Creek above Butte Reduction Works	0.068	0.014	0.012	0.055
SS-06G	Silver Bow Creek above Butte WWTP	0.036	0.020	0.022	0.061
SS-07	Silver Bow Creek below Butte WWTP	0.044	0.029	0.036	0.068
SS-08	Silver Bow Creek at Rocker	0.075	0.047	0.054	0.109
SS-10A	Silver Bow Creek above Sand Creek	0.127	0.063	0.070	0.138
SS-11C	Silver Bow Creek above Browns Gulch	0.114	0.088	0.085	0.167
SS-11D	Silver Bow Creek below Browns Gulch	0.110	0.064	0.083	0.154
SS-13	Silver Bow Creek in Reach L	0.158	0.053	0.046	0.112
SS-14	Silver Bow Creek at Miles Crossing	0.168	0.057	0.038	0.104
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.172	0.064	0.034	0.098
SS-15G	German Gulch near confluence	0.002[J]	0.002[J]	0.002[J]	0.002[J]
SS-15B	Silver Bow Creek below German Gulch	0.134	0.040	0.035	0.088
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.146	0.047	0.038	0.104
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.168	0.060	0.062	0.118
SS-19	Silver Bow Creek at Frontage Road	0.176	0.062	0.066	0.109

J — Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 25 percent.

Exceeds the chronic aquatic life standard [MDHES, 1994].

Exceeds the acute aquatic life standard [MDHES, 1994].

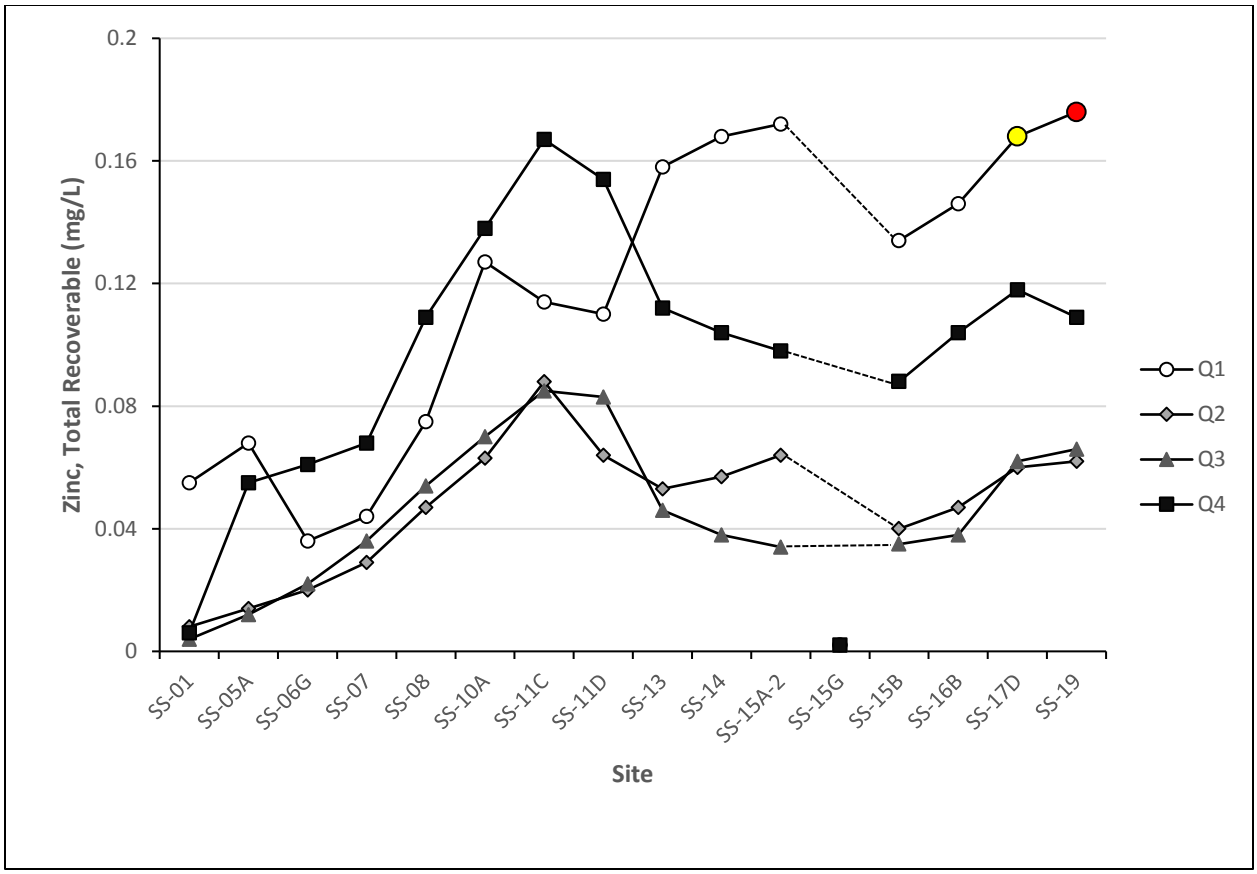

Figure 1-60. Total recoverable zinc concentrations at Streamside Tailings Operable Unit monitoring stations, 2018.

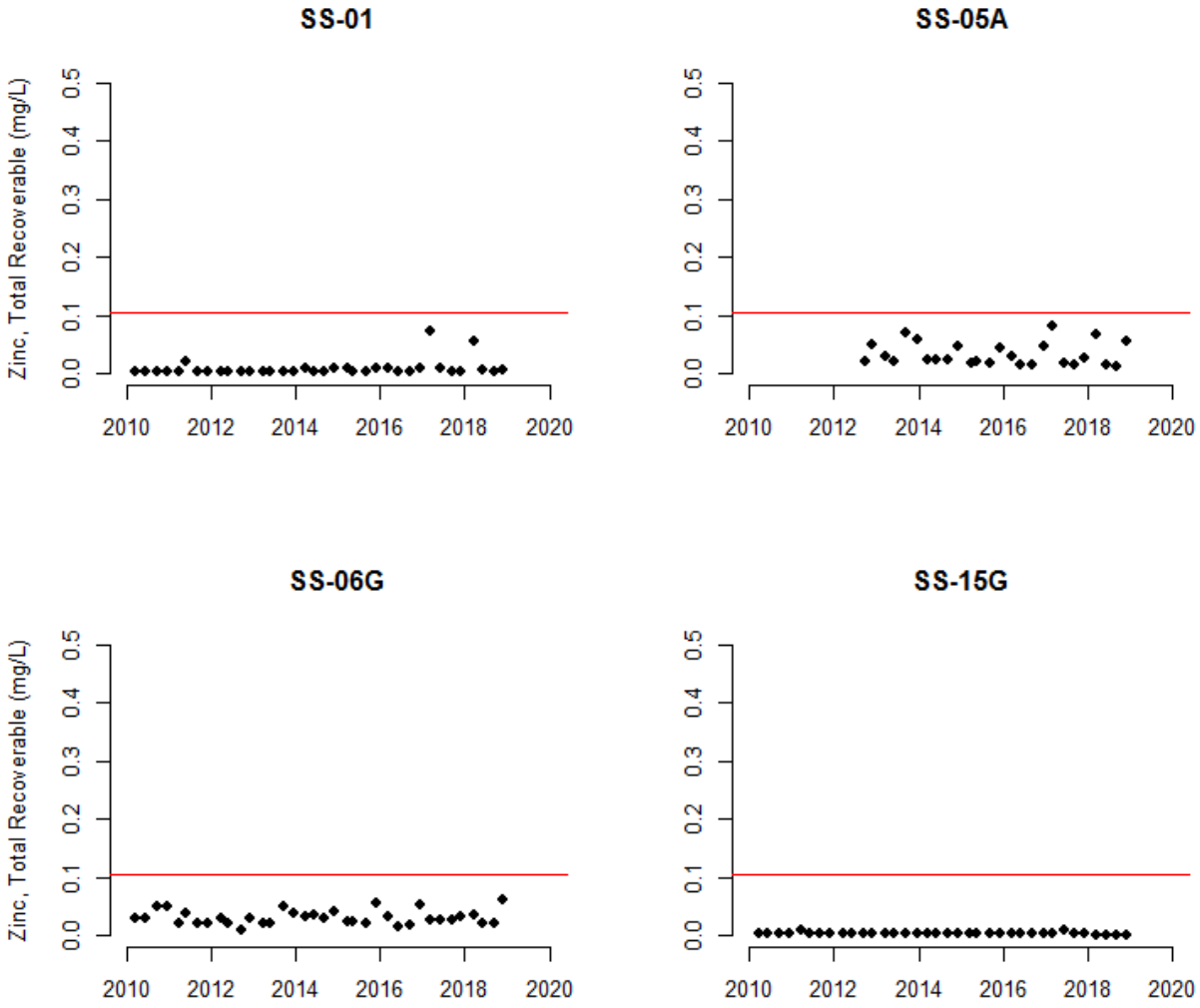

Figure 1-61. Total recoverable zinc concentrations (mg/L) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

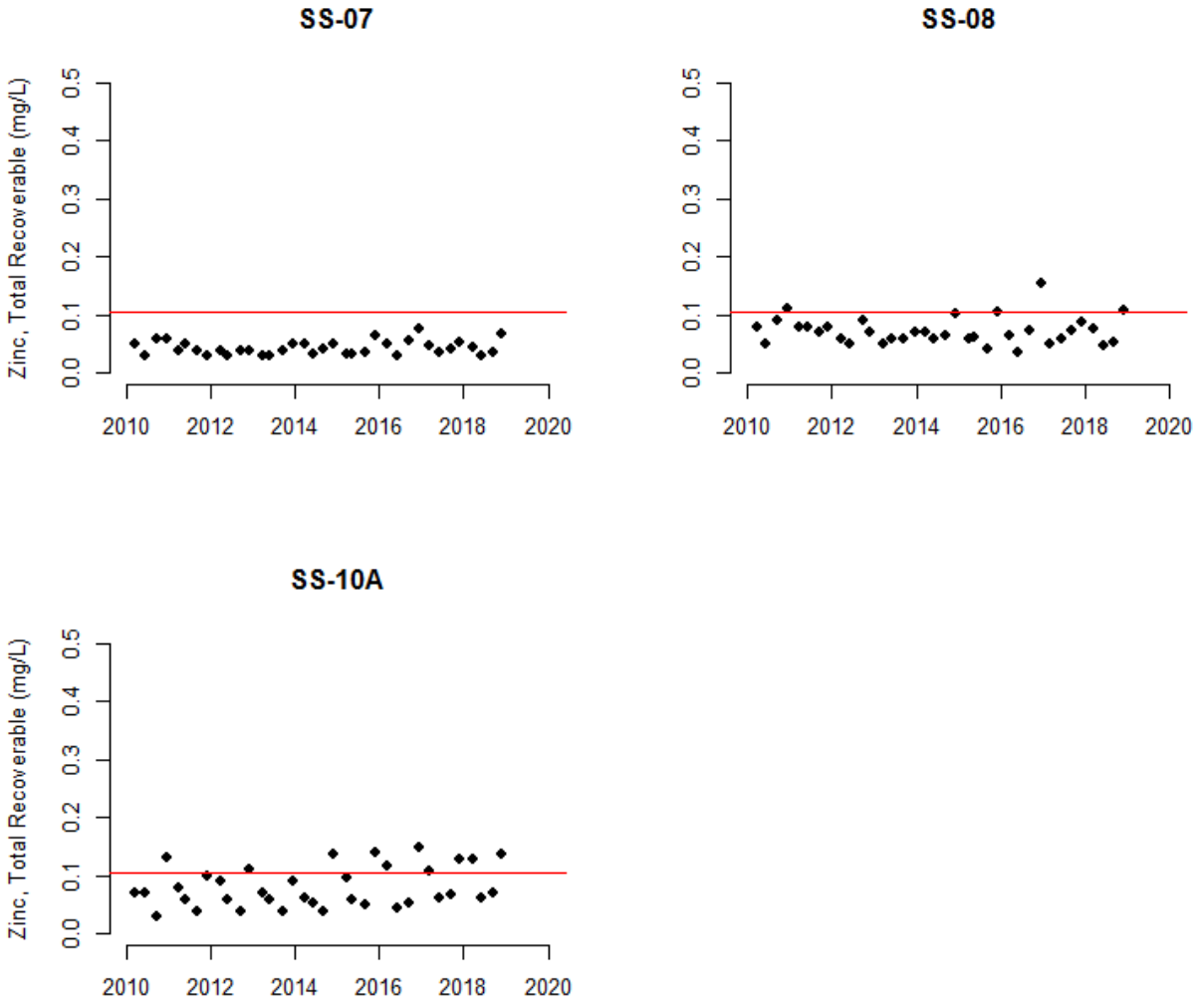

Figure 1-62. Total recoverable zinc concentrations (mg/L) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

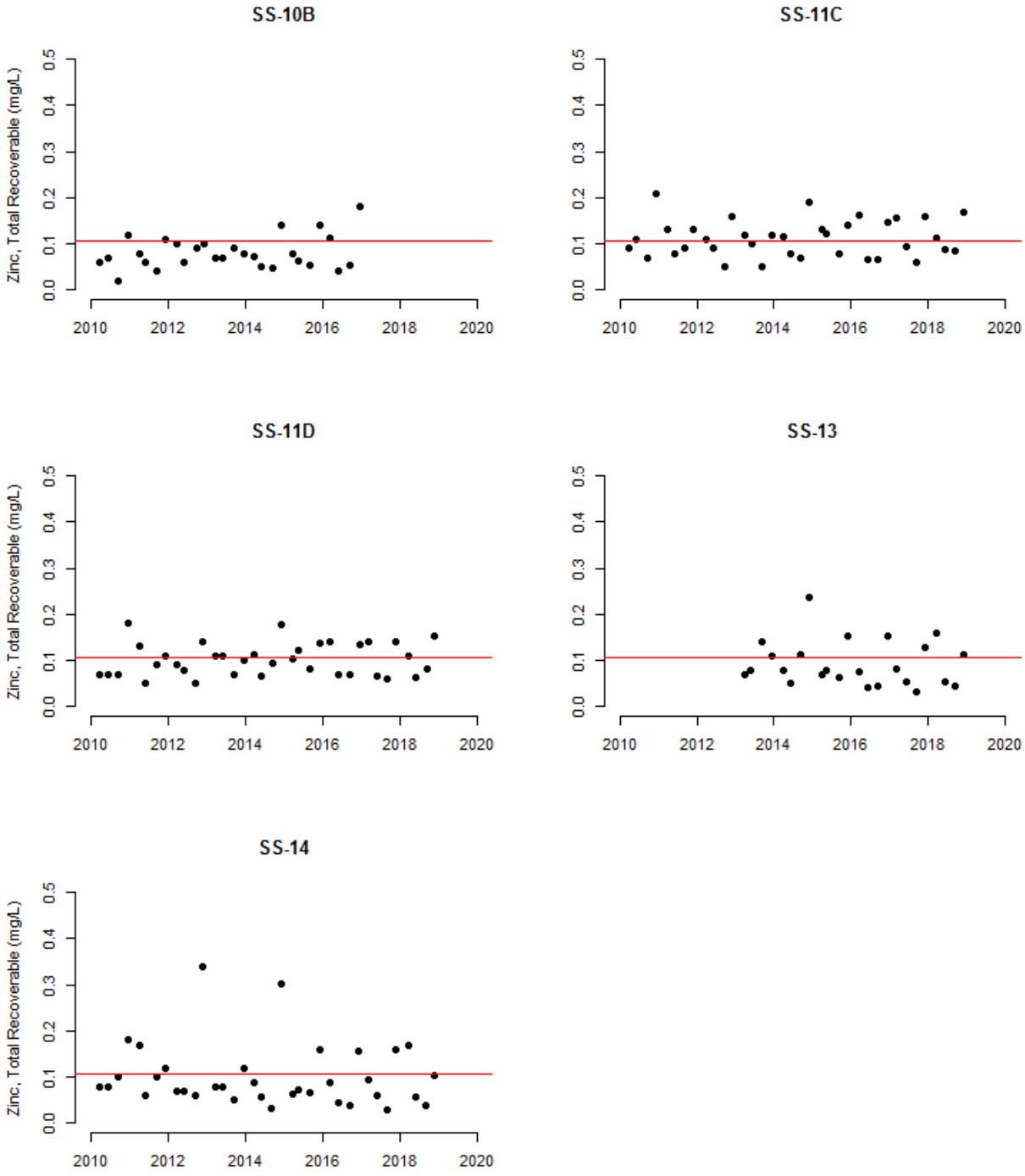

Figure 1-63. Total recoverable zinc concentrations (mg/L) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Sand Creek (Site SS-10B), Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

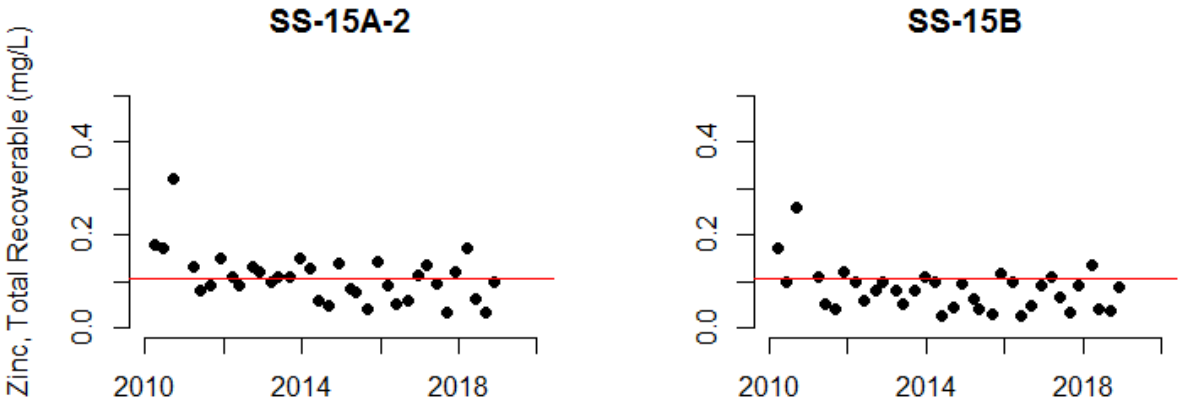

Figure 1-64. Total recoverable zinc concentrations (mg/L) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-15A-2) and below (Site SS-15B) German Gulch. Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].[33, 34]

[33] Two outliers are not depicted: 2.41 mg/L at Site SS-15A and 1.42 mg/L at Site SS-15B on December 13, 2010.

[34] The scatterplot representing data at Site SS-15A-2 includes data from Site SS-15A in years prior to 2017. Site SS-15A was relocated approximately 100 m upstream and renamed (Site SS-15A-2) to better represent prevailing conditions in the remediated stream channel in Subarea 3 above German Gulch [see RESPEC, 2018a].

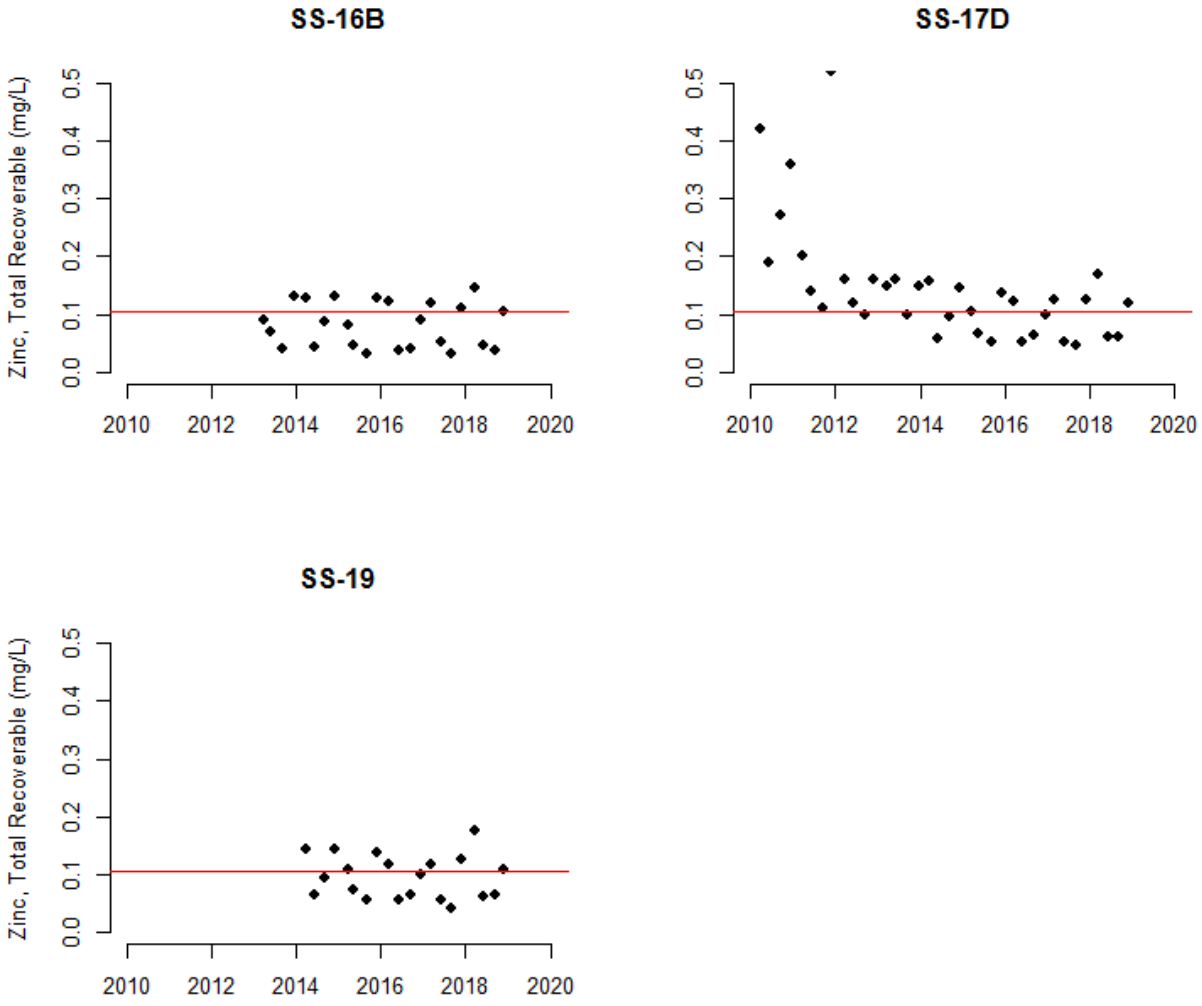

Figure 1-65. Total recoverable zinc concentrations (mg/L) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Red line represents the chronic aquatic life standard assuming hardness is 100 mg/L [MDHES, 1994].

1.4.7 Other Metals

1.4.7.1 Aluminum

Dissolved aluminum was detected at concentrations above the method detection limit (0.003 mg/L) in 63 percent of the samples (40 of 64) collected in 2018; concentrations ranged from <0.003-0.021 mg/L. No samples had dissolved aluminum concentrations exceeding the DEQ [2017] standards.

Total recoverable aluminum was detected at concentrations above the method detection limit in 100 percent of the samples (64 of 64) in 2018; concentrations ranged from 0.022-2.91 mg/L.

1.4.7.2 Antimony

Dissolved antimony was detected at concentrations above the method detection limit (0.00009 mg/L) in 80 percent of the samples (51 of 64) collected in 2018; concentrations ranged from <0.00009-0.00060 mg/L.

Total recoverable antimony was detected at concentrations above the method detection limit in 78 percent of the samples (50 of 64) in 2018; concentrations ranged from <0.0001-0.0008 mg/L. No samples had total recoverable antimony concentrations exceeding the DEQ [2017] standards.

1.4.7.3 Barium

Dissolved barium was detected at concentrations above the method detection limit (0.00002 mg/L) in 100 percent of the samples (64 of 64) collected in 2018; concentrations ranged from 0.019-0.054 mg/L.

Total recoverable barium was detected at concentrations above the method detection limit in 100 percent of the samples (64 of 64) in 2018; concentrations ranged from 0.020-0.069 mg/L. No samples had total recoverable barium concentrations exceeding the DEQ [2017] standards.

1.4.7.4 Beryllium

Beryllium (dissolved or total recoverable) was not detected above the method detection limit (0.0001 mg/L) in any of the 64 samples collected in 2018.

1.4.7.5 Boron

Dissolved boron was detected above the method detection limit (0.006 mg/L) in 78 percent of the samples (50 of 64) collected in 2018; concentrations ranged from <0.006-0.079 mg/L.

Total recoverable boron was detected above the method detection limit in 77 percent of the samples (49 of 64) in 2018; concentrations ranged from <0.006-0.082 mg/L.

1.4.7.6 Chromium

Dissolved chromium was detected above the method detection limit (0.0002 mg/L) in 27 percent of the samples (17 of 64) collected in 2018; all concentrations were at or below the 0.0002 mg/L limit.

Total recoverable chromium was detected above the method detection limit in 80 percent of the samples (51 of 64) collected in 2018; concentrations ranged from <0.0002-0.0035 mg/L. No samples had total recoverable chromium concentrations exceeding the DEQ [2017] standard.

1.4.7.7 Cobalt

Dissolved cobalt was detected above the method detection limit (0.00009 mg/L) in 59 percent of the samples (38 of 64) collected in 2018; concentrations ranged from <0.00009-0.00120 mg/L limit.

Total recoverable cobalt was detected above the method detection limit in 77 percent of the samples (49 of 64) collected in 2018; concentrations ranged from <0.00009-0.00140 mg/L. No samples had total recoverable chromium concentrations exceeding the DEQ [2017] standard.

1.4.7.8 Iron

Dissolved iron was detected at concentrations above the method detection limit (0.002 mg/L) in 100 percent of the samples (64 of 64) collected in 2018; concentrations ranged from 0.006-0.42 mg/L.

Total recoverable iron was detected at concentrations above the method detection limit in 100 percent of the samples (64 of 64) in 2018; concentrations ranged from 0.03-4.12 mg/L. Six samples had total recoverable iron concentrations exceeding the DEQ [2017] standard (Table 1-17).

Table 1-17. Total recoverable iron concentrations (mg/L) at Streamside Tailings Operable Unit monitoring stations, 2018.

Site ID	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	4.12	1.02	0.38	0.63
SS-05A	Silver Bow Creek above Butte Reduction Works	0.93	1.03	0.32	1.18
SS-06G	Silver Bow Creek above Butte WWTP	0.48	0.92	0.27	0.63
SS-07	Silver Bow Creek below Butte WWTP	0.36	0.81	0.20	0.51
SS-08	Silver Bow Creek at Rocker	0.50	0.87	0.25	0.71
SS-10A	Silver Bow Creek above Sand Creek	0.62	0.75	0.12	0.40
SS-11C	Silver Bow Creek above Browns Gulch	0.84	0.75	0.11	0.21
SS-11D	Silver Bow Creek below Browns Gulch	0.84	0.90	0.13	0.22
SS-13	Silver Bow Creek in Reach L	0.57	0.96	0.11	0.22
SS-14	Silver Bow Creek at Miles Crossing	0.60	0.94	0.10	0.20
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.78	0.85	0.07	0.16
SS-15G	German Gulch near confluence	0.19	0.24	0.03	0.04
SS-15B	Silver Bow Creek below German Gulch	0.66	0.58	0.07	0.12
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.83	0.69	0.09	0.19
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.11	0.87	0.17	0.25
SS-19	Silver Bow Creek at Frontage Road	1.26	0.93	0.19	0.25

Exceeds the chronic aquatic life standard [DEQ, 2017].

1.4.7.9 Manganese

Dissolved manganese was detected above the method detection limit (0.0003 mg/L) in all 64 samples collected in 2018; concentrations ranged from 0.001-0.300 mg/L.

Total recoverable manganese was detected above the method detection limit in all 64 samples in 2018; concentrations ranged from 0.003-0.352 mg/L.

1.4.7.10 Molybdenum

Dissolved molybdenum was detected at concentrations above the method detection limit (0.00002 mg/L) in 84 percent of the samples (54 of 64) collected in 2018; concentrations ranged from <0.00002-0.006 mg/L.

Total recoverable molybdenum was detected at concentrations above the method detection limit in 86 percent of the samples (55 of 64) in 2018; concentrations ranged from <0.00002-0.006 mg/L.

1.4.7.11 Nickel

Dissolved nickel was detected at concentrations above the method detection limit (0.0002 mg/L) in 75 percent of the samples (48 of 64) collected in 2018; concentrations ranged from <0.0002-0.0018 mg/L.

Total recoverable nickel was detected at concentrations above the method detection limit in 56 percent of the samples (36 of 64) in 2018; concentrations ranged from <0.0002-0.003 mg/L and did not exceed the chronic aquatic life standard [DEQ, 2017].

1.4.7.12 Selenium

Dissolved selenium was detected at concentrations above the method detection limit (0.00005 mg/L) in 80 percent of the samples (51 of 64) collected in 2018; concentrations ranged from <0.00002-0.00086 mg/L.

Total recoverable selenium was detected at concentrations above the method detection limit in 80 percent of the samples (51 of 64) in 2018; concentrations ranged from <0.00005-0.00073 mg/L and did not exceed the chronic aquatic life standard [DEQ, 2017].

1.4.7.13 Silver

Dissolved silver was detected at concentrations above the method detection limit (0.000008 mg/L) in 23 percent of the samples (15 of 64) collected in 2018; concentrations ranged from <0.000008-0.0006 mg/L.

Total recoverable silver was detected at concentrations above the method detection limit in 64 percent of the samples (41 of 64) in 2018; concentrations ranged from <0.000008-0.0002 mg/L and did not exceed the chronic aquatic life standard [DEQ, 2017].

1.4.7.14 Uranium

Dissolved uranium was detected above the method detection limit (0.00001 mg/L) in all 64 samples collected in 2018; concentrations ranged from 0.0003-0.0060 mg/L.

Total recoverable uranium was detected above the method detection limit in all 64 samples in 2018; concentrations ranged from 0.0004-0.0062 mg/L. No samples exceeded the 0.03 mg/L human health surface water standard [DEQ, 2017].

1.4.7.15 Vanadium

Dissolved vanadium was detected above the method detection limit (0.00007 mg/L) in 80 percent of the samples (51 of 64) collected in 2018; concentrations ranged from <0.00007-0.0026 mg/L.

Total recoverable vanadium was detected above the method detection limit in 80 percent of the samples (51 of 64) samples in 2018; concentrations ranged from <0.00007-0.0100 mg/L.

1.4.8 Data Validation

Data quality objectives (DQOs) were evaluated for accuracy and precision. These DQOs were largely met in 2018, with a few exceptions. To assess accuracy, analyte concentrations were measured in field blanks to evaluate sampling accuracy and the extent to which the field techniques may have contaminated the samples. Sixty analytes were analyzed in eight separate field blank samples. Of the 60 analyte concentrations in those field blanks, 2.3 percent (11 of 480) had concentrations equal to or greater than the respective analytical reporting limit. Barium was detected in 25 percent (2 of 8) of the dissolved field blank samples with concentrations of 0.005 mg/L and 0.008 mg/L (RL = 0.003 mg/L). Hardness was detected in 25 percent (2 of 8) of the field blank samples with concentrations of 2 mg/L in each (RL = 1 mg/L). Zinc was detected in 88 percent (7 of 8) of the dissolved field blank samples; detectable dissolved zinc concentrations in field blanks ranged from 0.009-0.030 mg/L (field blank mean = 0.015 mg/L; RL = 0.008 mg/L).

Paired field sample and field duplicate concentrations were compared to evaluate sampling precision. In each pair, sixty analytes were compared in eight separate field sample and field duplicate pairs. In total, there were 480 sample and duplicate pairs and of those 52 percent (248) had concentrations which were at least 500 percent of the analytical reporting limit (RL). Relative percent difference (RPD) comparisons were made between each of those 248 pairs. One pair had an RPD greater than the data quality objective specified for sampling precision (25 percent): the dissolved cadmium sample and duplicate pair collected on March 21, 2018 had an RPD of 30.5 percent.

1.5 DISCUSSION

The SSTOU remedy is intended to remove threats to human health and the environment posed by mining related contaminants within the floodplain of Silver Bow Creek. As of December 2018, major remedial measures have been completed throughout the SSTOU and minor actions were in progress in Subarea 2 to remove residual contaminants. This monitoring report represents a continuing assessment of post-remediation conditions in the SSTOU and at reference sample sites immediately outside the SSTOU.

1.5.1 Streamflows

Streamflows in Silver Bow Creek in 2018 were extremely high throughout the year due to a strong snowpack in the mountains and cool spring weather. High streamflows during the spring and early summer were sustained through the late summer, fall, and early winter of 2018. Streamflows appear to be closely related to some constituent concentrations in the SSTOU, particularly common ion concentrations [RESPEC, 2017a]. However, streamflows have not been a particularly reliable predictor of total recoverable copper concentrations since 2011 [RESPEC, 2017a].

Constituents which appear to be strongly influenced by streamflows include common ions and, to a lesser extent, nutrients. In 2018, hardness, conductivity, and common ion concentrations (alkalinity, bicarbonate alkalinity, calcium, magnesium, sodium, chloride, and sulfate) tended to be lowest during the spring runoff period (Q2) and highest during the late summer sample period (Q3) suggesting that these ion concentrations are strongly influenced by dilution from spring snowmelt. Nutrient concentrations were also generally lowest when streamflows were highest (Q2) indicating that dilution is an important factor controlling nutrient concentrations. However, nutrient concentrations also appeared to be strongly influenced by wastewater management practices and presumably by stream metabolism. Elevated nutrient concentrations during the late fall of 2018 may have been caused by several factors including concentrated nutrients (due to low streamflows), low stream metabolism as rates of biological uptake of nutrients decreased in relation to decreased sunlight and water temperatures, and decomposition of aquatic plants and algae.

Based on a cursory analysis of data collected in the SSTOU from 2011-2016, streamflows were not closely related to total suspended sediment concentrations or total recoverable copper concentrations [RESPEC, 2017a]. Those results suggest that variation in suspended sediment concentration is caused primarily by factors other than streamflow in the SSTOU. A more careful examination of COC concentrations in relation to streamflow and sediment concentrations on a site-by-site basis may be warranted.

1.5.2 Field Parameters

1.5.2.1 Water Temperature

Differences in water temperature among sample quarters reflected seasonal temperature fluctuations in the SSTOU in 2018. Temperatures were lowest in the late fall (Q4) and highest during the spring runoff (Q2). Within sample quarters, variation in water temperature among sites probably did not represent actual temperature variation because comparisons were confounded by the time of day samples were collected and diel variation in water temperatures was likely very strong during some sample periods (particularly Q2 and Q3). During warm periods, diel fluctuations in water temperature were likely primary factors responsible for the variation in temperatures among sites.

This sampling program does not represent mid-summer conditions. Although the temperatures observed in this program during the 2018 sampling periods do not suggest stressful conditions for salmonids and other cold-water organisms, hourly temperature monitoring in Silver Bow Creek by Montana Fish, Wildlife & Parks [RESPEC, 2015] indicate that water temperatures in Silver Bow Creek during the summer commonly exceed 20 C and occasionally exceed 25 C. Therefore, it is important to recognize the limitations of the data included in this report in describing spatial temperature trends.

1.5.2.2 pH

All pH measurements in the SSTOU in 2018 were within the 6.5–9.5 goal range for I-classification streams. Variability in pH between sites during the same sample period were likely the result of diel biogeochemical cycles [Nimmick et al., 2011] and therefore it is difficult to discern spatial pH trends from the data contained in this report.

1.5.2.3 Conductivity

Elevated conductivity may indicate excessive concentrations of dissolved solids which may limit some beneficial uses of water (e.g., irrigation or drinking water). Low conductivity is typically related to watershed geology and may indicate low productivity of associated biological systems. Conductivity tends to be inversely related to streamflow due to dilution.

Conductivity was generally highest at each site in Q3 presumably due to low streamflows at that time. The lowest conductivities were observed in Q2 when streamflows were highest. The greatest increases in conductivity between Silver Bow Creek sites occurred from above the Butte Reduction Works (SS-05A) to above the Butte WWTP (SS-06G) in Q1 and Q3.

1.5.2.4 Dissolved Oxygen

All dissolved oxygen concentrations were above the 1-day minimum standard for an I-classification stream without juvenile salmonids (3 mg/L; DEQ [2017]). Recent studies have

demonstrated that Silver Bow Creek, prior to the Butte WWTP upgrades, had stream reaches with severe hypoxia (dissolved oxygen less than 2 mg/L) during summer nights [Plumb, 2009; Gammons et al., 2011; Naughton, 2013] caused by ammonia-rich effluent from the Butte WWTP [Gammons et al., 2011]. Following the WWTP upgrades, ammonia concentrations are sharply reduced from prior levels although Q1 2018 ammonia levels were elevated.

1.5.2.5 Turbidity and Suspended Sediment

Metals in the SSTOU are complexed with sediments and therefore measurement of sediment concentrations are closely related to total recoverable metal concentrations including COCs. Direct measurement of COC concentrations requires expensive laboratory analysis. Turbidity measurements may provide a simple, cost effective method of estimating suspended sediment and total recoverable COC concentrations by proxy.

1.5.3 Common Ions

Common ions describe the basic water chemistry of the subject water bodies, and certain ions (e.g., sulfate) may be used as indicators for the presence of mine related contaminants. Calcium and magnesium ions contribute to water hardness, which helps to buffer the toxic effects of some heavy metals. Aquatic life toxicity standards for cadmium, copper, lead, zinc and other metals vary as a function of water hardness to account for the mediating effect of hardness on toxicity. Hardness mitigates metal toxicity by preventing aquatic organisms from absorbing metals. Carbonate and bicarbonate alkalinity also contribute to the buffering system of surface waters by resisting changes in pH. Levels of water hardness and alkalinity also influence the productivity of aquatic systems. Western freshwater fisheries typically have alkalinity values of 100–200 mg/L.

In 2018, most ion concentrations increased in stream sections near Butte, specifically between Blacktail Creek (Site SS-01) and Silver Bow Creek above Butte WWTP (Site SS-06G) and downstream of Site SS-06G the rate of increase in common ion concentrations between sites tended to decline. Ion concentrations also tended to be inversely related to streamflow with concentrations generally lowest in Q2 and highest in Q3 or Q4.

1.5.4 Nutrients

The 2016 monitoring year was important for evaluation of nutrient concentrations because upgrades to the Butte WWTP plant became effective during that year. Data from 2018 generally continues to support the conclusion that the 2016 WWTP upgrades have drastically reduced certain nutrient concentrations (particularly ammonia). However, during Q1 2018 ammonia concentrations were elevated suggesting that treatment methods were at least temporarily disrupted.

After the WWTP upgrades, which appear to have become effective between Q1 2016 and Q2 2016, certain nitrogen constituent concentrations have decreased markedly (particularly

ammonia) but other nitrogen constituents (i.e., total nitrogen and nitrate plus nitrite) have decreased, but less dramatically compared to ammonia. Phosphorus concentrations have also decreased since Q1 2016 downstream from the WWTP.

Since the upgrades to the WWTP, ammonia concentrations in Silver Bow Creek below the WWTP (SS-07) have decreased by approximately two orders of magnitude to less than 0.05 mg/L throughout Silver Bow Creek. However, ammonia concentrations in Q1 2018 were high (0.45-1.68 mg/L) at all Silver Bow Creek sites downstream from the WWTP suggesting some disruption or change in treatment processes at the plant during that monitoring period. Total nitrogen and nitrate plus nitrite concentrations in 2018 increased sharply at the WWTP but returned to levels that were similar to, or even lower than, background concentrations. Total nitrogen and nitrate plus nitrite concentrations remain elevated in Silver Bow Creek since the upgrades but concentrations for these nitrogen constituents were relatively low in 2017 and 2018 compared to prior monitoring years. Total phosphorus concentrations were also low in 2017 and 2018 relative to prior monitoring years. However, despite the upgrades, total nitrogen and total phosphorus concentrations remained well above the DEQ standards. For these nutrients, further reductions will likely require non-point source actions above Site SS-01 because concentrations at Site SS-01 for each constituent were well above the DEQ standards. Unlike the nitrogen constituents, total phosphorus concentrations did not increase sharply at the Butte WWTP in 2018 as had occurred during nearly all monitoring periods prior to 2018. These results suggest the WWTP may have improved their ability to control phosphorus loading.

1.5.5 Contaminants of Concern

The SSTOU remedy is intended to remove threats to human health and the environment posed by the presence of metals-rich tailings within the floodplain of Silver Bow Creek. Therefore, most of the results summaries in this report have been allocated to metal COCs.

Performance goals were exceeded for five COCs in 2018 at one or more SSTOU sites: arsenic, copper, lead, mercury, and zinc. Exceedances occurred at three non-SSTOU sites: Blacktail Creek (Site SS-01; arsenic, copper, lead, and mercury), Silver Bow Creek above Butte Reduction Works (Site SS-05A; arsenic, copper, lead, and mercury) and Silver Bow Creek above Butte WWTP (Site SS-06G; arsenic, and copper). At SSTOU sites, 48 samples were collected and the performance goals were exceeded for arsenic in 19 (40 percent) samples, for copper in 33 (69 percent) samples, for lead in 2 (4 percent) samples, for mercury in 20 (42 percent) samples, and for zinc in 2 (4 percent) samples. Cadmium did not exceed the performance goal at any SSTOU site.

Suspended sediment concentrations and total recoverable COC concentrations appear to be strongly linked in the SSTOU [RESPEC, 2017a]. In 2016 and 2017, suspended sediment concentrations tended to be highest during the winter (Q4) in the SSTOU and total recoverable COC concentrations were also elevated during those periods. However, in 2018, suspended sediment concentrations were highest at Site SS-01 in Q1 and at most sites in Q1 and Q2. During those quarters of 2018, total recoverable COC concentrations also were elevated accordingly.

Major remediation was completed in Subarea 1 in 2003, in Subarea 2 in 2010, in Subarea 3 in 2015, and in Subarea 4 in 2014. Therefore, it is most likely that changes in COC concentrations over time would be most apparent in recent data (since 2010) in the Subarea 3 and 4 sites. From 2010-2018, COC concentrations appear to have stabilized in Subarea 1 and 2 making trends difficult to discern without applying statistical analyses. However, Subarea 3 sites above (SS-15A-2) and below (SS-15B) German Gulch appear to have declined in most COC concentrations through time. In Subarea 4, Opportunity (SS-17D) has demonstrated a sharp decline in COC concentrations since 2010. Additional cleanup actions in Subareas 1 and 2, which were recently completed in Subarea 1 and in progress in Subarea 2, may result in some punctuated decreases in COC concentrations.

1.5.6 Other Metals

No surface water samples exceeded DEQ [2017] standards for any non-COC metals with the exception of iron. Iron concentrations exceeded the standard in 6 of 64 samples. As with the COCs, elevated iron concentrations appeared to correspond to elevated turbidity and suspended sediment concentrations.

1.5.7 Data Validation

All data derived from laboratory analysis of surface water were validated through field and laboratory quality control procedures. A quality assurance and quality control checklist, field duplicate and blank results, and assessments of data quality objectives are included in Appendix A.

Few detections of any analytes in field blanks suggest the field techniques generally introduced little contamination into the samples. However, one exception was dissolved zinc which was detected in 88 percent of the field blank samples, although at low concentrations (not more than 0.030 mg/L) relative to the performance goal (0.120 mg/L at water hardness of 100 mg/L). The consistency with which the field blanks were contaminated by dissolved zinc suggests the sample processing technique introduces zinc into the dissolved samples resulting in a positive bias to dissolved samples (i.e., actual dissolved zinc concentrations in the stream were probably slightly lower than the concentrations reported in the field blank samples). We suspect the disposable membrane discs used to filter the samples were likely responsible for the zinc contamination despite rinsing each filter with one syringe volume (60 mL) of deionized water and one volume of sample water prior to filtration of each sample. Although contamination of dissolved zinc is a concern, the performance goal for zinc is based on total recoverable (i.e., unfiltered) concentrations and therefore contamination of the total recoverable samples by the filter membranes would not have occurred. No field blanks had total recoverable zinc concentrations above the reporting limit suggesting contamination of those samples was minimal.

The exceedance rate of the project data quality objective for sampling precision (i.e., paired sample and duplicate RPDs were less than 25 percent) was less than one percent in 2018 suggesting sampling precision for the data collected was high.

2.0 SEDIMENT

2.1 INTRODUCTION

The Streamside Tailings Operable Unit (SSTOU) Record of Decision (ROD) did not specify numeric remediation standards for concentrations of contaminants of concern in instream sediment, stating "No metals concentration cleanup goal is established by this action" [DEQ and USEPA, 1995]. The 1998 Explanation of Significant Differences (ESD) [DEQ and USEPA, 1998] modified the sediment goals to recognize that the realignment and reconstruction of the stream channel in many areas provided for the streambed to be reconstructed with clean materials. In those areas where the existing channel was to be maintained, the sediments would be excavated to a minimum depth of one foot and the new channel bed reconstructed with clean fill material. Thus, the contaminated sediments were replaced with clean material throughout the operable unit.

2.2 REFERENCE VALUES

Contaminant of concern concentrations in instream sediments are compared to ecological reference values to evaluate the influence of remediation and extent of recontamination from upstream on sediment. These reference values are the "threshold effect concentration" (TEC) and the "probable effect concentration" (PEC) which are consensus-based sediment quality guidelines for benthic organisms [MacDonald et al., 2000]. At metal COC concentrations above the TEC, benthic organisms may be affected. At metal COC concentrations above the PEC, benthic organisms are likely to be affected (Table 2-1).

Table 2-1. Reference values for contaminant of concern concentrations (dry weight [DW]) of instream sediments in the Streamside Tailings Operable Unit. The threshold effect concentration (TEC) and probable effect concentration (PEC) were described in MacDonald et al. [2000].

Contaminant of Concern	Threshold Effect Concentration (mg/kg-DW)	Probable Effect Concentration (mg/kg-DW)
Arsenic	9.79	33
Cadmium	0.99	4.98
Copper	31.6	149
Lead	35.8	128
Mercury	0.18	1.06
Zinc	121	459

2.3 METHODS

The purpose of the instream sediment monitoring program is to collect data describing the temporal and spatial variation of COC concentrations in the SSTOU. These data provide a long-term record of environmental conditions in the SSTOU. This long-term record provides a dataset to evaluate the effect of remediation on environmental conditions in the SSTOU over time. Changes to the sediment monitoring program have occurred over time and a record of these changes is provided in the project sampling and analysis plan [RESPEC, 2018b]. The program attempts to fully adhere to monitoring requirements specified in the SSTOU ROD (Table 2-2).

Table 2-2. Minimum post-remedy instream sediment monitoring requirements specified in the Record of Decision for the Streamside Tailings Operable Unit [DEQ and USEPA, 1995].

Locations/Physical	Analytical Parameters	Analytes
Surface water locations and at each depositional area.	Metals (total) in three size fractions: <0.063 mm, 0.065-1 mm, >1 mm and greater	Arsenic, cadmium, copper, lead, mercury, zinc

2.3.1 Monitoring Locations

In 2018, major remedial actions were completed throughout the SSTOU. Monitoring was conducted at 16 long-term monitoring sites and three additional sites which were monitored to investigate specific questions (Figure 2-1). The three additional sites (Sites SS-04, SLAG-01, and SS-15A-2) are not intended to be long-term sites.

Of the long-term sites, 12 were located within the SSTOU (Table 2-3; Figure 2-1). Locations of some sampling sites were selected based on SSTOU ROD requirements (Table 2-2). Long-term monitoring sites located outside the SSTOU were sampled to describe instream sediment conditions in portions of Silver Bow Creek and Blacktail Creek immediately upstream from the SSTOU (Sites SS-01, SS-05A, and SS-06G), and in a major tributary (German Gulch) entering Silver Bow Creek within the SSTOU (Site SS-15G) (Figure 2-1). Site SS-05A is located within Lower Area One of the Butte Priority Soils Operable Unit and historically was heavily contaminated by mining and smelting waste. Therefore, Site SS-05A is not representative of background conditions. Blacktail Creek at Father Sheehan Park (Site SS-01) and German Gulch (Site SS-15G) probably best represent "background" conditions outside the direct influence of mining contamination from Butte area operations.

Three short-term sites were monitored starting in 2016: an alternate Silver Bow Creek above German Gulch (Site SS-15A-2), Silver Bow Creek in Slag Canyon (SLAG-01), and Blacktail Creek at Metro Storm Drain confluence (Site SS-04). Site SS-15A-2 was sampled to investigate if COC concentrations at Site SS-15A, where the streambed was not remediated, differed substantially from a site approximately 200 m upstream where the streambed was remediated (Figure 2-2). Short-term Sites SLAG-01 and Site SS-04, both located upstream from the SSTOU, were added to the sediment monitoring network in 2016 at the request of the Natural Resource Damage

Program to provide additional data for Silver Bow Creek and Blacktail Creek in the vicinity of the Slag Canyon and Metro Storm Drain (Figure 2-3).

Table 2-3. Instream sediment sampling locations in the Streamside Tailings Operable Unit.

Site ID	Site Location	Within SSTOU	Long-term Site	Location (GPS coordinates, NAD 83)	
				Latitude	Longitude
SS-01	Blacktail Creek at Father Sheehan Park		x	45.98532	-112.50772
SS-04[35]	Blacktail Creek at Metro Storm Drain Confluence			45.99460	-112.53592
SLAG-01	Silver Bow Creek in Slag Canyon			45.99675	-112.54143
SS-05A	Silver Bow Creek above Butte Reduction Works		x	45.99653	-112.54343
SS-06G	Silver Bow Creek above Butte WWTP	x	x	45.99648	-112.56316
SS-07[36]	Silver Bow Creek below Butte WWTP	x	x	45.99679	-112.56470
SS-08	Silver Bow Creek at Rocker	x	x	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	x	x	46.00375	-112.66084
SS-11C	Silver Bow Creek above Browns Gulch	x	x	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	x	x	46.00342	-112.70304
SS-13	Silver Bow Creek in Reach L	x	x	46.00647	-112.71394
SS-14	Silver Bow Creek at Miles Crossing	x	x	46.01142	-112.72270
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	x		46.02096	-112.78802
SS-15B	Silver Bow Creek below German Gulch	x	x	46.02263	-112.79175
SS-15G	German Gulch near confluence		x	46.02170	-112.79029
SS-16B	Silver Bow Creek in Reach P near Fairmont	x	x	46.05494	-112.79611
SS-17D[37]	Silver Bow Creek below Stewart Street at Opportunity	x	x	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	x	x	46.12250	-112.80077

[35] Co-located with USGS gage 12323240.

[36] Co-located with USGS gage 12323250.

[37] Co-located with USGS gage 12323600.

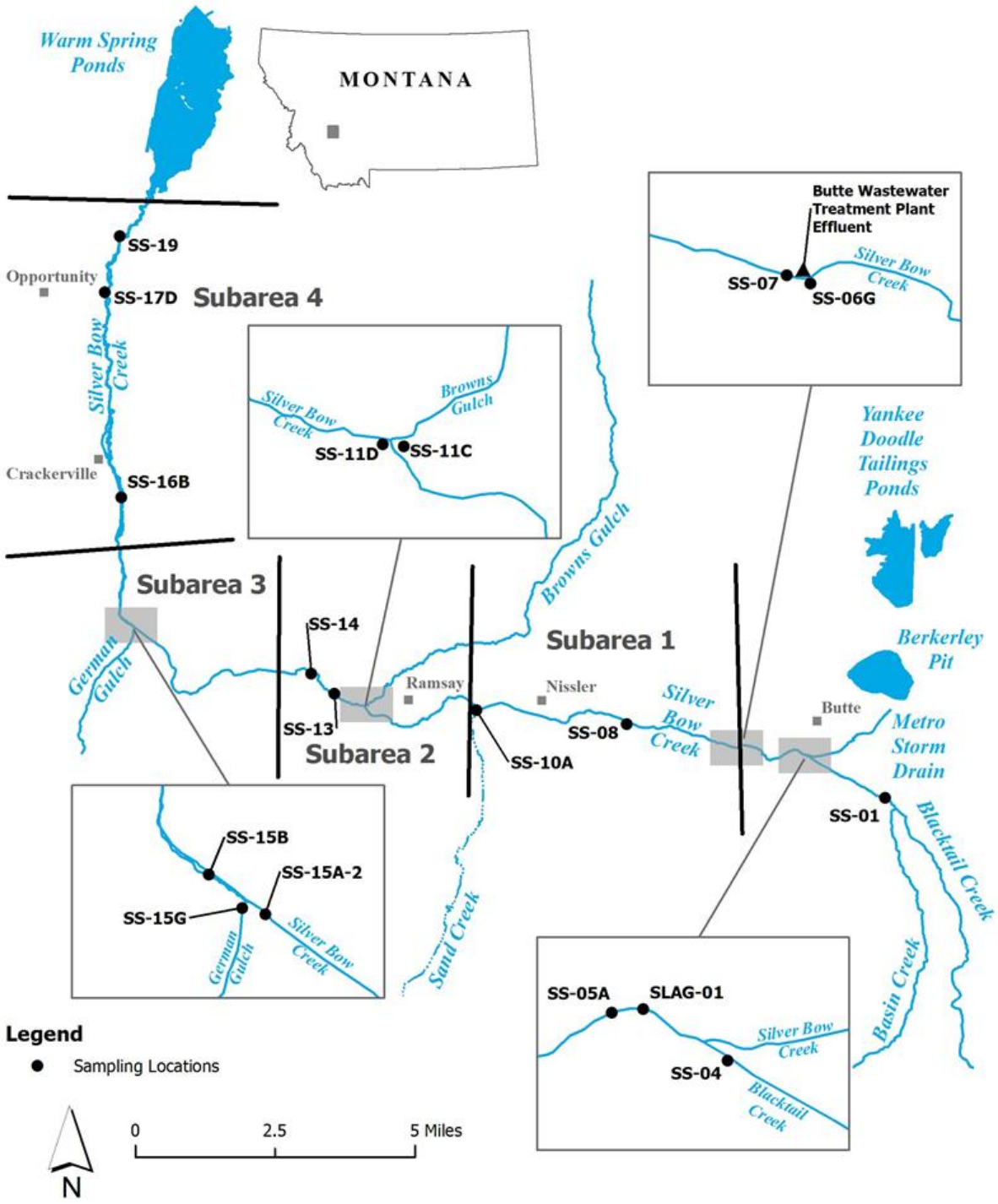

Figure 2-1. Instream sediment sampling locations in the Streamside Tailings Operable Unit.

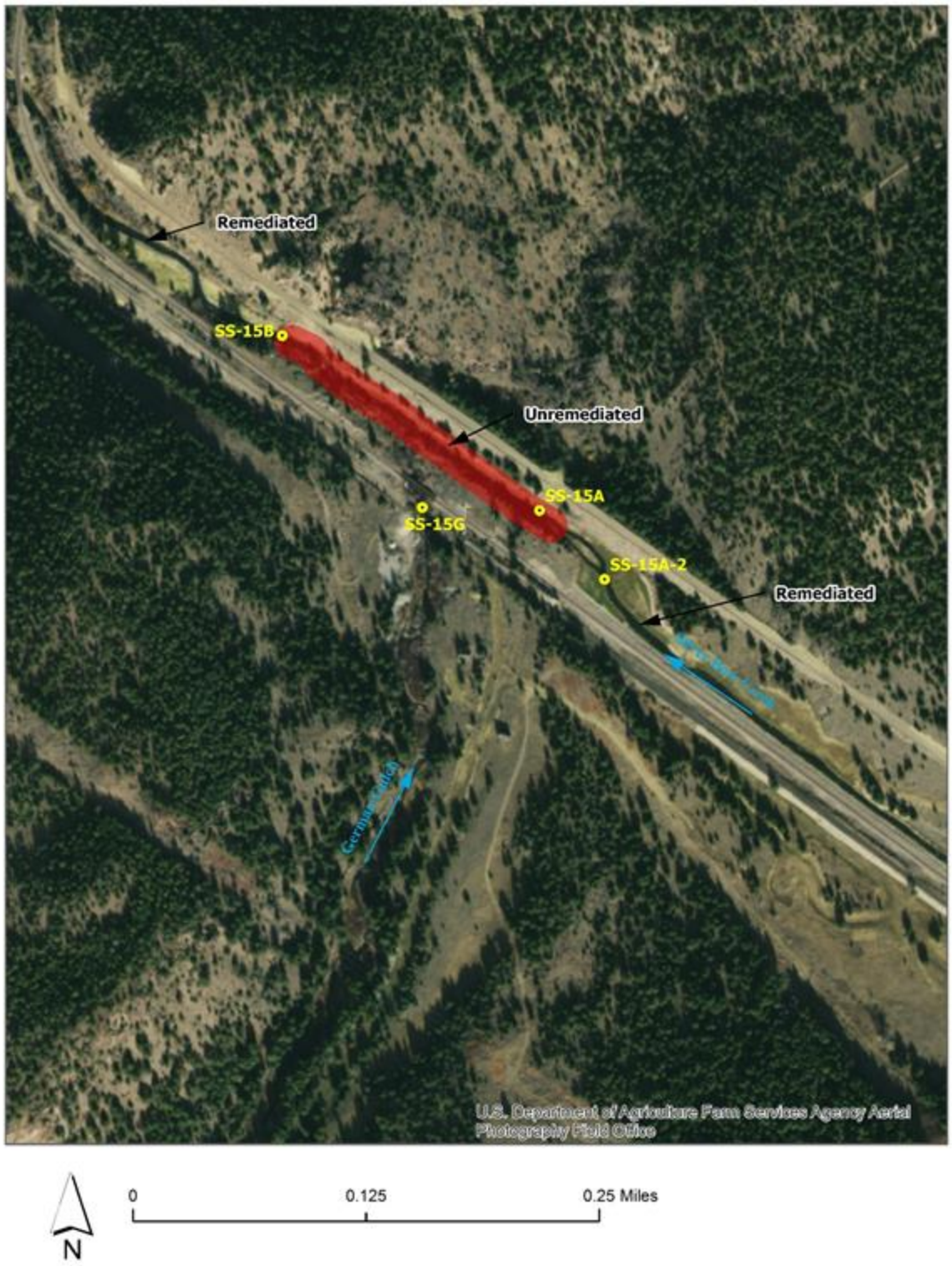

Figure 2-2. Instream sediment sampling locations in the vicinity of the German Gulch confluence in the Streamside Tailings Operable Unit. The reach of the Silver Bow Creek stream channel highlighted in red was not remediated due to limited access and the relatively low estimated tailings volume.



Figure 2-3. Silver Bow Creek and Blacktail Creek instream sediment sampling locations in the vicinity of the Slag Canyon (highlighted in yellow) and the Metro Storm Drain (i.e., Silver Bow Creek) and Blacktail Creek confluence in Butte, Montana.

2.3.2 Monitoring Schedule

Monitoring events were scheduled to describe seasonal variation in sediment chemistry within the SSTOU. One monitoring event occurred during each calendar quarter. Quarterly monitoring events occurred near the end of each quarter. First quarter (Q1) monitoring occurred from March 21-22 prior to spring snowmelt runoff. Second quarter (Q2) monitoring occurred from June 6-7 approximately at the peak of the spring snowmelt runoff period. Third quarter (Q3) monitoring occurred from September 12-13 during low streamflow conditions. Fourth quarter (Q4) monitoring occurred from November 28-29 during late fall.

Monitoring at Site SS-10B (Silver Bow Creek below Sand Creek) was discontinued in 2017. Site SS-10B was paired with Site SS-10A (Silver Bow Creek above Sand Creek) to elicit sediment chemistry contributions from Sand Creek. After several years of data collection, Site SS-10B showed no significant differences from Site SS-10A and therefore continued monitoring provided little insight.

2.3.3 Monitoring Parameters

Instream sediment samples were analyzed for total extractable dry weight concentrations of COCs (arsenic, cadmium, copper, lead, mercury, and zinc) and other metals (aluminum, antimony, barium, beryllium, boron, chromium, cobalt, iron, manganese, molybdenum, nickel, selenium, silver, uranium, and vanadium). Each sample was sieved in the laboratory into three size fractions (<0.063 mm, 0.063–1 mm, and 1–2 mm) and metal concentrations were determined independently for each size fraction.

2.3.4 Sample Collection and Analysis

Sample collection and analysis procedures are described in the project sampling and analysis plan (SAP) [RESPEC, 2018b] and quality assurance and quality control procedures are described in the program quality assurance project plan (QAPP) [RESPEC, 2014]. Sample collection methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Composite sediment samples were collected from at least five depositional areas in the stream according to Montana Department of Environmental Quality (DEQ) standard operating procedures (SOPs) [DEQ, 2012a]. Each composite sample was wet sieved in the laboratory into three sediment size fractions: <0.063 mm, 0.063–1 mm, and 1–2 mm. Samples were analyzed by size fraction at Energy Laboratories (Helena, Montana). Laboratory analysis procedures included SW6010B, SW6020, SW7471A, or SW7471B (Table 2-4). Samples collected from Sites SS-04 and SLAG-01 were not analyzed for the entire suite of analytes listed in Table 2-4. At those sites, samples were analyzed for arsenic, cadmium, copper, lead, and zinc in the <0.063 mm size fraction following the same analytical procedures.

Table 2-4. Analytes and analytical methods for instream sediment monitoring in the Streamside Tailings Operable Unit, 2018.

Parameter	Category	Analytical Method
Arsenic	Contaminants of concern	SW6010B
Cadmium		SW6020
Copper		SW6010B
Lead		SW6010B
Zinc		SW6010B
Mercury		SW7471B
Aluminum	Other metals	SW6010B
Antimony		SW60120
Barium		SW6010B
Beryllium		SW6010B
Boron		SW6010B
Chromium		SW6010B
Cobalt		SW6010B
Iron		SW6010B
Manganese		SW6010B
Molybdenum		SW6020
Nickel		SW6010B
Selenium		SW6020
Silver		SW6020
Uranium		SW6020
Vanadium		SW6010B

2.3.5 Data Analysis

Data analysis includes description of spatial trends (among sample sites during the same sample period) and temporal (quarterly and annual) trends in constituent concentrations. For COC, longer-term (since 2014) results are included to provide context for the 2018 results and to evaluate concentrations through time.

Analyte concentrations for each sample were compared to reference values identified for the SSTOU (Table 2-1). The weighted mean concentration of the three sediment size fractions (<0.063 mm, 0.065-1 mm, 1-2 mm) was used for comparison to the identified reference values. The weighted mean concentrations were computed for each COC metal on the basis of sample fraction weight among the three size fractions. In addition, all samples collected at each site were grouped and the median concentration of each COC in the finest size fraction (<0.063 mm) were compared using boxplots to evaluate general spatial trends.

2.3.6 Data Validation

Data quality objectives (DQOs) were established in the SSTOU QAPP for "data representativeness", "comparability", "completeness", "sensitivity", "precision", "bias", and "accuracy" [RESPEC, 2014]. Methods for field and laboratory QA/QC procedures are also described in detail in the project QAPP. A completed QA/QC checklist, summary tables of field

duplicate and field blank results, and assessments of data quality objectives are included in Appendix A. Results from the analytical laboratory are included in Appendix B.

Variability in sediment metals concentrations among samples was assessed by comparing field duplicate samples to field samples. Field duplicate samples were collected at the same location and at the same time as field samples and were processed and analyzed by the same methods. The relative percent difference (RPD) between the concentration in the field duplicate and field sample pair was determined for each metal. Two field duplicate samples were collected during each sampling event and RPD statistics were calculated for each field duplicate and field sample pair.

2.4 RESULTS

2.4.1 Sample Size Fraction

The proportion of sediment by size fraction in each sample is displayed in Table 2-5.

Table 2-5. Proportion of each sediment sample in three size fractions in the Streamside Tailings Operable Unit, 2018.

Site	Site Location	Sample Quarter (%)			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	4.5	5.1	2.5	1.6
SS-04	Blacktail Creek at Metro Storm Drain Confluence	9.2	1.5	1.7	7.1
SLAG-01	Silver Bow Creek in Slag Canyon	4.6	1.3	1.1	4.7
SS-05A	Silver Bow Creek above Butte Reduction Works	4.3	2.4	6.7	9.3
SS-06G	Silver Bow Creek above Butte WWTP	5.9	1.1	0.7	1.3
SS-07	Silver Bow Creek below Butte WWTP	4.9	1.5	1.9	2.9
SS-08	Silver Bow Creek at Rocker	23.9	1.1	3.7	2.4
SS-10A	Silver Bow Creek above Sand Creek	17.5	19.5	16.0	17.7
SS-11C	Silver Bow Creek above Browns Gulch	2.1	2.0	2.8	6.4
SS-11D	Silver Bow Creek below Browns Gulch	4.2	2.1	3.0	3.6
SS-13	Silver Bow Creek in Reach L	11.0	1.6	2.9	11.5
SS-14	Silver Bow Creek at Miles Crossing	31.9	8.4	4.9	2.7
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	3.1	6.2	5.4	3.5
SS-15G	German Gulch at mouth	0.6	8.2	1.5	3.8
SS-15B	Silver Bow Creek below German Gulch	2.4	9.4	1.4	1.5
SS-16B	Silver Bow Creek in Reach P near Fairmont	9.6	7.6	11.4	4.4
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	4.7	10.7	7.6	12.7
SS-19	Silver Bow Creek at Frontage Road	1.4	0.3	0.5	3.9
Mid fraction (0.065-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	51.6	48.6	57.2	44.6
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	33.2	26.3	39.1	32.4
SS-06G	Silver Bow Creek above Butte WWTP	54.9	23.9	23.6	43.4
SS-07	Silver Bow Creek below Butte WWTP	37.8	38.2	33.0	32.4
SS-08	Silver Bow Creek at Rocker	37.0	34.0	31.1	43.2
SS-10A	Silver Bow Creek above Sand Creek	33.0	56.0	20.3	30.5
SS-11C	Silver Bow Creek above Browns Gulch	15.4	25.8	14.3	24.7

SS-11D	Silver Bow Creek below Browns Gulch	35.5	24.6	28.2	37.2
SS-13	Silver Bow Creek in Reach L	31.4	34.1	36.1	43.2
SS-14	Silver Bow Creek at Miles Crossing	42.8	44.0	29.0	30.3
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	35.4	51.8	34.7	26.2
SS-15G	German Gulch at mouth	38.6	90.9	25.5	23.4
SS-15B	Silver Bow Creek below German Gulch	31.6	61.4	34.9	27.6
SS-16B	Silver Bow Creek in Reach P near Fairmont	56.3	88.3	52.3	69.0
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	41.9	71.4	53.5	33.1
SS-19	Silver Bow Creek at Frontage Road	24.3	28.0	67.8	31.2
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	20.7	13.9	21.2	24.5
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	17.8	14.5	19.3	11.2
SS-06G	Silver Bow Creek above Butte WWTP	29.3	31.0	46.0	26.2
SS-07	Silver Bow Creek below Butte WWTP	27.3	35.8	26.7	29.2
SS-08	Silver Bow Creek at Rocker	23.2	34.9	34.0	26.0
SS-10A	Silver Bow Creek above Sand Creek	14.8	7.0	22.5	13.9
SS-11C	Silver Bow Creek above Browns Gulch	15.2	22.7	22.6	26.8
SS-11D	Silver Bow Creek below Browns Gulch	22.8	20.0	31.1	42.8
SS-13	Silver Bow Creek in Reach L	8.2	18.6	29.6	19.6
SS-14	Silver Bow Creek at Miles Crossing	15.9	19.4	32.8	31.6
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	34.8	16.1	26.0	24.5
SS-15G	German Gulch at mouth	36.3	0.9	20.7	24.6
SS-15B	Silver Bow Creek below German Gulch	44.7	14.6	45.6	41.0
SS-16B	Silver Bow Creek in Reach P near Fairmont	7.5	2.5	15.4	13.1
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	22.9	6.0	13.4	12.2
SS-19	Silver Bow Creek at Frontage Road	26.4	19.7	22.0	22.0

--- Not sampled.

2.4.2 Contaminants of Concern

2.4.2.1 Arsenic

Among all samples collected in 2018, sediment arsenic concentrations ranged from 25-413 mg/kg-DW in the <0.063 mm size fraction, from 4.1-113 mg/kg-DW in the 0.063-1 mm size fraction, and from <0.2-154 mg/kg-DW in the 1-2 mm size fraction (Table 2-6). Weighted mean arsenic concentrations ranged from 2-80 mg/kg-DW among samples with arsenic concentrations above the reporting limit in all three size fractions (Table 2-7). Based on the weighted mean concentrations, exceedances of the arsenic TEC occurred in 51 samples and the PEC was exceeded in 6 samples; weighted mean concentrations were not determined for three samples because one or more size fractions for that sample had arsenic concentration below the analytical reporting limit and therefore weighted mean concentrations could not be determined (Table 2-7).

Spatially, fine fraction (<0.063 mm) median arsenic concentrations generally increased between each site from Blacktail Creek at Father Sheehan Park (Site SS-01) downstream to Silver Bow Creek above the Butte Reduction Works (Site SS-05A) then decreased downstream to Silver Bow Creek above Sand Creek (Site SS-10A) (Figure 2-4). Downstream from Site SS-10A, median concentrations were generally similar at each site with the exception of Silver Bow Creek below German Gulch (Site SS-15B) (Figure 2-4). Median concentration in Silver Bow Creek below German Gulch (Site SS-15B) were similar to the median concentration at Site SS-08 (Figure 2-4). The median concentration at Site SS-05A was higher than at any other site (Figure 2-4).

In "background" sites (i.e., Sites SS-01 and SS-15G), fine fraction (<0.063 mm) median arsenic concentrations were above the PEC in both sites (Figure 2-4). In Subarea 1 and 2, median concentrations were well above background concentrations in Silver Bow Creek sites below the Butte WWTP (Site SS-07) and at Rocker (Site SS-08) but similar to background in all other Subarea 1 and 2 sites (Sites SS-10A, SS-11C, SS-11D, SS-13, and SS-14) (Figure 2-4). In Subarea 3, the median concentration at Site SS-15A-2 was similar to the background sites but below German Gulch (Site SS-15B) median concentrations were higher than background (Figure 2-4). Subarea 4 sites (Sites SS-16B, SS-17D, and SS-19) had median concentrations approximately 1-1.5 times higher than background (Figure 2-4).

Since 2014, arsenic concentrations were relatively constant and were generally at or slightly above the PEC at background sites in Blacktail Creek (Site SS-01) and German Gulch (Site SS-15G) (Figure 2-5). None of the reference sites (Sites SS-04, SLAG-01, SS-05A, and SS-06G) demonstrated clear directional (i.e., monotonic) trends although some sites appear to demonstrate slight increasing trends (Figure 2-5). In Subarea 1, concentrations in Silver Bow Creek below the Butte WWTP (Site SS-07) appears to demonstrate a slight increasing trend, particularly since 2017, but no clear trends are apparent in other Subarea 1 sites (Figure 2-6). In Subareas 2 and 3, concentrations appear generally stable through time and no positive or negative trends are apparent (Figure 2-7; Figure 2-8). Concentrations in Silver Bow Creek below German Gulch (Site SS-15B) have been highly variable compared to other Subarea 2 and 3 sites (Figure 2-7; Figure 2-8). In Subarea 4, concentrations at the Silver Bow Creek sites at Fairmont (Site SS-16B) and

Opportunity (Site SS-17D) appear to be decreasing slightly through time (Figure 2-9). No temporal trend is apparent at the Frontage Road site (Site SS-19), primarily due to the high degree of variability in the results (Figure 2-9).

Table 2-6. Total arsenic concentrations (mg/kg dry weight) by size fraction in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	42	31	36	48
SS-04	Blacktail Creek at Metro Storm Drain Confluence	113	211	375	255
SLAG-01	Silver Bow Creek in Slag Canyon	204	192	413	213
SS-05A	Silver Bow Creek above Butte Reduction Works	267	335	342	317
SS-06G	Silver Bow Creek above Butte WWTP	104	170	229	180
SS-07	Silver Bow Creek below Butte WWTP	147	153	241	183
SS-08	Silver Bow Creek at Rocker	45	77	112	137
SS-10A	Silver Bow Creek above Sand Creek	43	35	25	57
SS-11C	Silver Bow Creek above Browns Gulch	37	37	44	25
SS-11D	Silver Bow Creek below Browns Gulch	30	39	50	54
SS-13	Silver Bow Creek in Reach L	39	40	40	40
SS-14	Silver Bow Creek at Miles Crossing	47	49	35	36
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	33	38	34	31
SS-15G	German Gulch at mouth	46	63	56	51
SS-15B	Silver Bow Creek below German Gulch	58	309	83	76
SS-16B	Silver Bow Creek in Reach P near Fairmont	52	29	44	45
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	44	36	46	33
SS-19	Silver Bow Creek at Frontage Road	77	53	64	68
Mid fraction (0.065-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	4.1	4.4	4.7	4.8
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	82	61	63	113
SS-06G	Silver Bow Creek above Butte WWTP	22	29	25	37
SS-07	Silver Bow Creek below Butte WWTP	40	35	24	30
SS-08	Silver Bow Creek at Rocker	29	12	18	51
SS-10A	Silver Bow Creek above Sand Creek	16	20	7	12
SS-11C	Silver Bow Creek above Browns Gulch	4.3	4.8	10	6
SS-11D	Silver Bow Creek below Browns Gulch	4.2	4.1	6	8

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-13	Silver Bow Creek in Reach L	8	5	6	7
SS-14	Silver Bow Creek at Miles Crossing	10	9	7	6
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	27	45	26	41
SS-15G	German Gulch at mouth	15	28	33	22
SS-15B	Silver Bow Creek below German Gulch	30	60	36	24
SS-16B	Silver Bow Creek in Reach P near Fairmont	16	17	16	16
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	26	20	14	12
SS-19	Silver Bow Creek at Frontage Road	21	11	14	16
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	5	3.2	3.0	4.3
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	154	49	44	44
SS-06G	Silver Bow Creek above Butte WWTP	82	32	18	30
SS-07	Silver Bow Creek below Butte WWTP	22	21	50	24
SS-08	Silver Bow Creek at Rocker	15	18	12	34
SS-10A	Silver Bow Creek above Sand Creek	12	15	14	10
SS-11C	Silver Bow Creek above Browns Gulch	3.7	3.5	6	ND
SS-11D	Silver Bow Creek below Browns Gulch	4.9	7	8	8
SS-13	Silver Bow Creek in Reach L	6	7	4.5	ND
SS-14	Silver Bow Creek at Miles Crossing	7	7	6	ND
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	17	25	45	35
SS-15B	Silver Bow Creek below German Gulch	21	27	17	14
SS-15G	German Gulch at mouth	33	21	13	31
SS-16B	Silver Bow Creek in Reach P near Fairmont	13	10	18	17
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	10	4.4	8	9
SS-19	Silver Bow Creek at Frontage Road	9	12	8	11

--- Not sampled.

ND Not detected at analytical reporting limit.

Table 2-7. Weighted mean (by size fraction) for total arsenic concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	5	4.2	4.2	4.0
SS-04	Blacktail Creek at Metro Storm Drain Confluence	DNA	DNA	DNA	DNA
SLAG-01	Silver Bow Creek in Slag Canyon	DNA	DNA	DNA	DNA
SS-05A	Silver Bow Creek above Butte Reduction Works	66	31	56	74
SS-06G	Silver Bow Creek above Butte WWTP	42	19	16	26
SS-07	Silver Bow Creek below Butte WWTP	28	23	26	22
SS-08	Silver Bow Creek at Rocker	25	11	14	34
SS-10A	Silver Bow Creek above Sand Creek	15	19	9	15
SS-11C	Silver Bow Creek above Browns Gulch	2.0	2.8	4.0	DNA
SS-11D	Silver Bow Creek below Browns Gulch	3.9	3.2	5.7	8.3
SS-13	Silver Bow Creek in Reach L	7	3.6	4.7	DNA
SS-14	Silver Bow Creek at Miles Crossing	20	9	6	DNA
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	16	30	23	20
SS-15G	German Gulch at mouth	21	26	18	20
SS-15B	Silver Bow Creek below German Gulch	20	80	14	12
SS-16B	Silver Bow Creek in Reach P near Fairmont	15	17	16	15
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	15	18	12	9
SS-19	Silver Bow Creek at Frontage Road	9	6	12	10

DNA Does not apply because one or more sample fractions had ND concentration.

Exceeds the threshold effect concentration [MacDonald et al., 2000].

Exceeds the probable effect concentration [MacDonald et al., 2000].

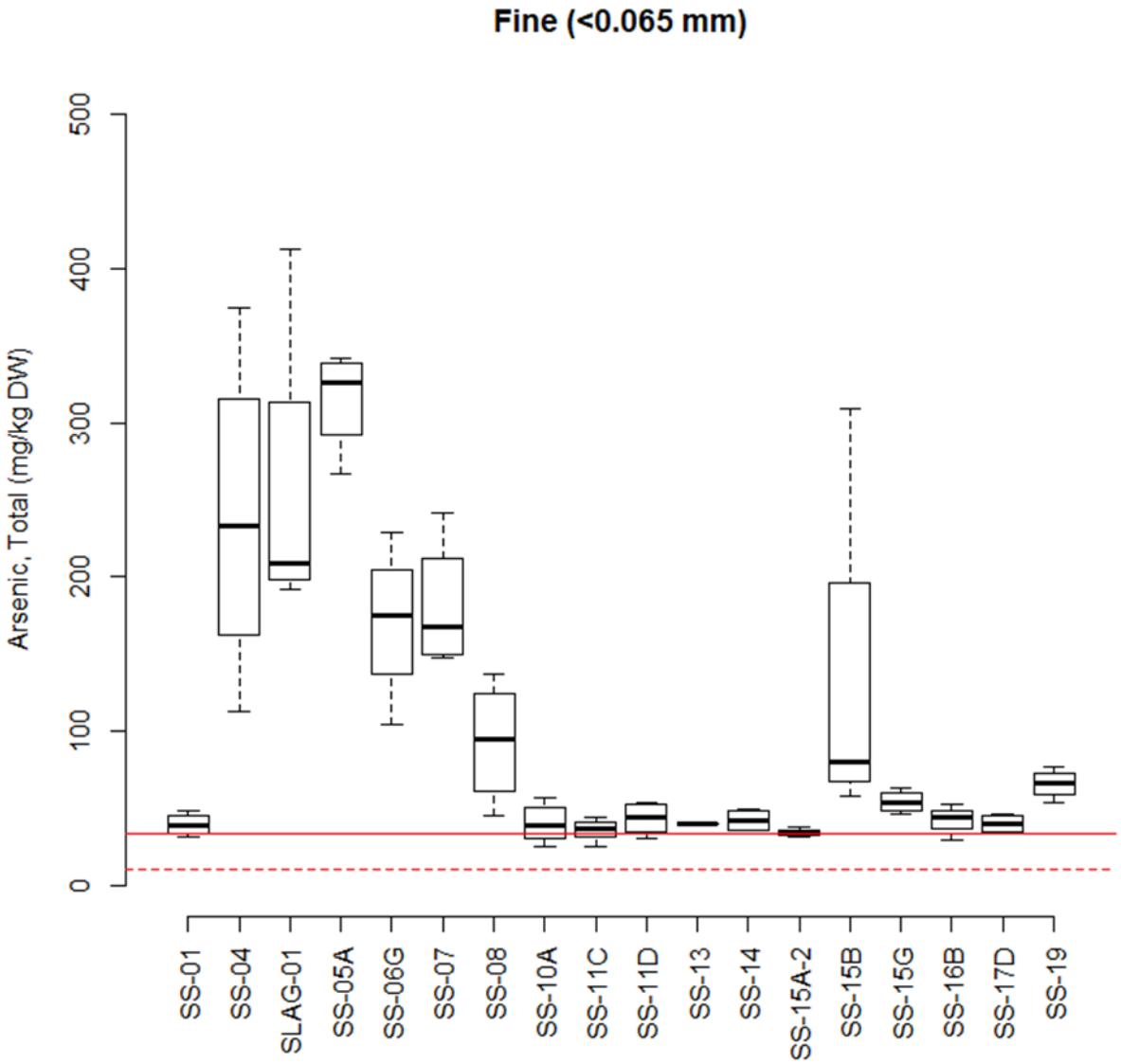

Figure 2-4. Total arsenic concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2018. Solid red line is the 33 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 9.79 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

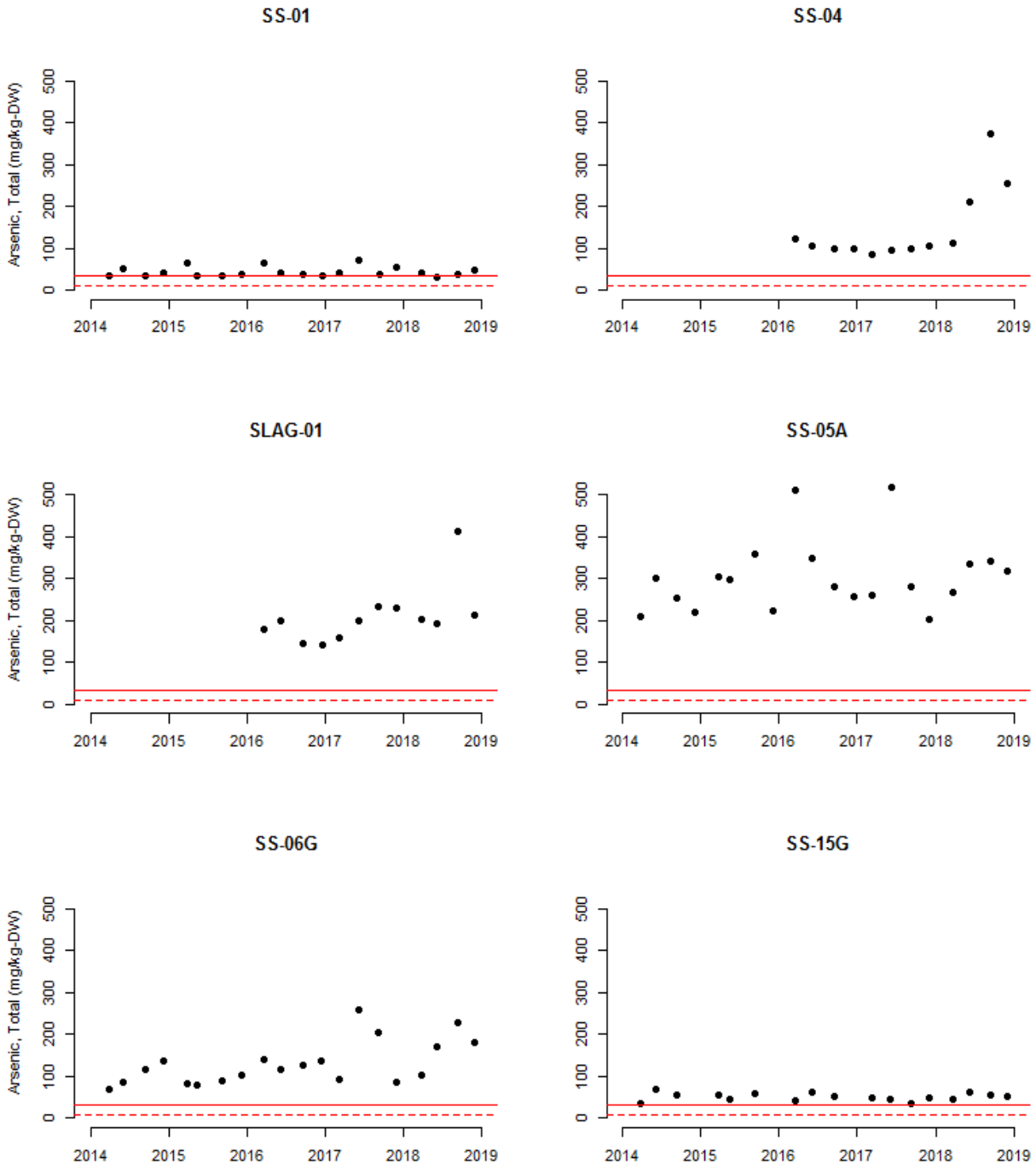

Figure 2-5. Fine fraction (<0.063 mm) total dry-weight arsenic concentrations (mg/kg-DW) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Blacktail Creek at Metro Storm Drain Confluence (Site SS-04), Silver Bow Creek in Slag Canyon (SLAG-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Solid red line is the 33 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 9.79 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

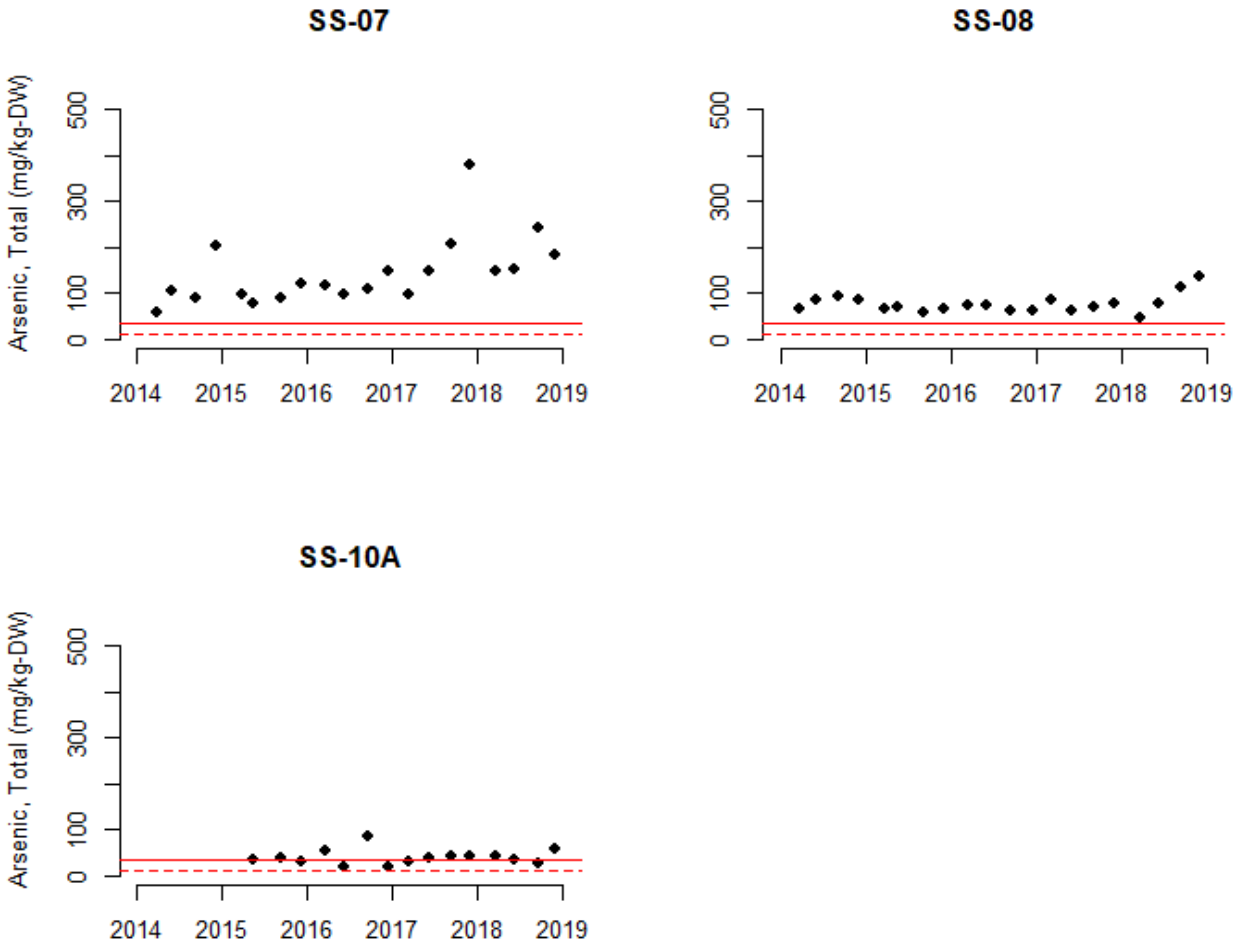

Figure 2-6. Fine fraction (<0.063 mm) total dry-weight arsenic concentrations (mg/kg-DW) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Solid red line is the 33 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 9.79 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].



Figure 2-7. Fine fraction (<0.063 mm) total dry-weight arsenic concentrations (mg/kg-DW) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Solid red line is the 33 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 9.79 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

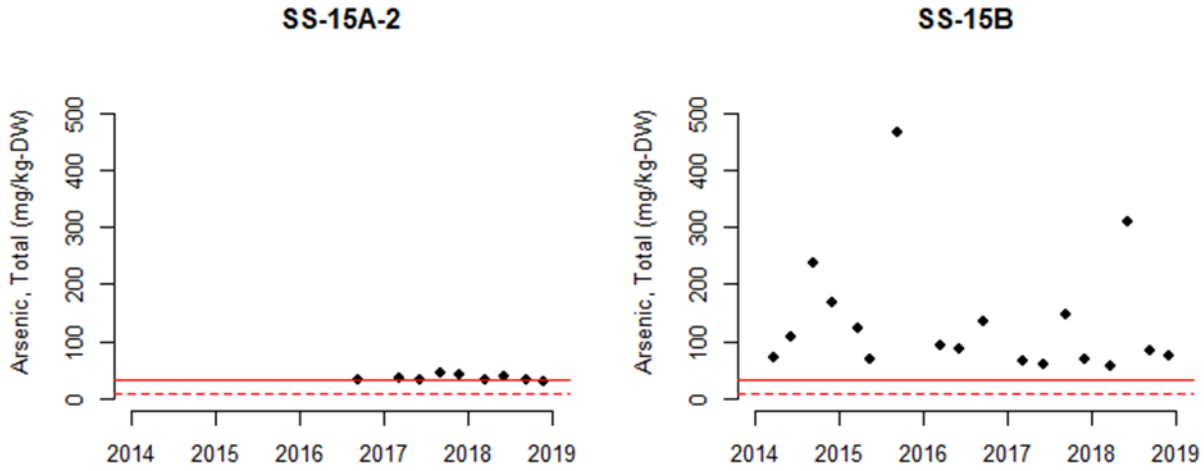

Figure 2-8. Fine fraction (<0.063 mm) total dry-weight arsenic concentrations (mg/kg-DW) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above German Gulch (Alternate Site, Site SS-15A-2), Silver Bow Creek above (Site SS-15A) and below (Site SS-15B) German Gulch. Solid red line is the 33 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 9.79 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

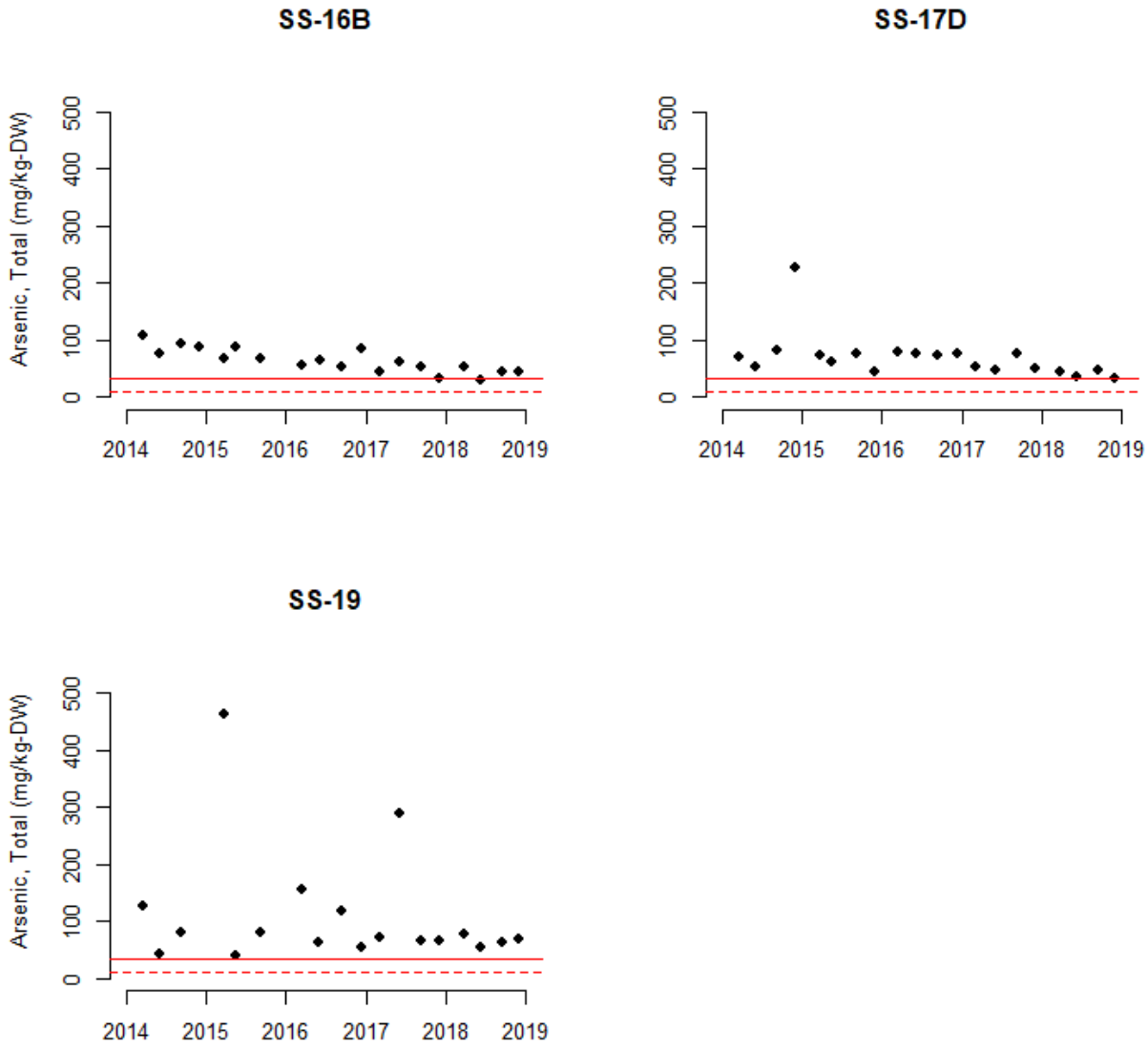

Figure 2-9. Fine fraction (<0.063 mm) total dry-weight arsenic concentrations (mg/kg-DW) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Solid red line is the 33 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 9.79 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.2 Cadmium

Among all samples collected in 2018, sediment cadmium concentrations ranged from 0.9-70.2 mg/kg-DW in the <0.063 mm size fraction, from <0.1-6.2 mg/kg-DW in the 0.065-1 mm size fraction, and from <0.1-2.7 mg/kg-DW in the 1-2 mm size fraction (Table 2-8). Weighted mean concentrations ranged from 0.15-4.43 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions (Table 2-9). Based on the weighted mean concentrations, exceedances of the TEC occurred in 24 samples and the PEC was exceeded in 0 sample; weighted mean concentrations were not determined for 15 samples because one or more size fractions for that sample had a concentration below the analytical reporting limit and therefore weighted mean concentrations could not be determined (Table 2-9).

Spatially, fine fraction (<0.063 mm) median cadmium concentrations generally increased between each site from Blacktail Creek at Father Sheehan Park (Site SS-01) downstream to Silver Bow Creek in Slag Canyon (SLAG-01) and then generally decreased downstream throughout the SSTOU with some local deviations (Figure 2-10). Silver Bow Creek at Frontage Road (Site SS-19) had a median concentration slightly higher than expected given the prevailing trend (Figure 2-10) and also had a Q3 concentration that was well above any other sample concentrations in 2018 (70.2 mg/kg) (Table 2-8).

In "background" sites (i.e., Sites SS-01 and SS-15G), fine fraction (<0.063 mm) median cadmium concentrations were similar and were between the TEC and PEC (Figure 2-10). Median concentrations in all SSTOU sites were well above background and were generally above the PEC (Fiugre 2-10).

Since 2014, cadmium concentrations were relatively constant and were generally at or slightly above the TEC at background sites in Blacktail Creek (Site SS-01) and German Gulch (Site SS-15G) (Figure 2-11). Some reference sites (Sites SS-04, SLAG-01, and SS-06G) appear to demonstrate slight increasing trends through time (Figure 2-11). In Subareas 1 and 2, concentrations appear generally stable through time and no positive or negative trends are apparent (Figure 2-12; Figure 2-13). In Subarea 3, concentrations appear generally stable through time although the limited data set at the relocated site above German Gulch (Site SS-15A-2) suggests a decreasing trend through time (Figure 2-14). In Subarea 4, no clear temporal trends were apparent, primarily due to the high degree of variability at these sites (Figure 2-15).

Table 2-8. Total cadmium concentrations (mg/kg dry weight) by size fraction in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	1.9	0.9	1.5	1.4
SS-04	Blacktail Creek at Metro Storm Drain Confluence	6.5	7.7	11.8	9.3
SLAG-01	Silver Bow Creek in Slag Canyon	19.9	16.7	14.1	23.0
SS-05A	Silver Bow Creek above Butte Reduction Works	11.7	14.6	17.8	21.0
SS-06G	Silver Bow Creek above Butte WWTP	9.8	13.8	25.3	13.5
SS-07	Silver Bow Creek below Butte WWTP	6.8	8.9	8.7	9.5
SS-08	Silver Bow Creek at Rocker	9.5	11.5	12.1	13.8
SS-10A	Silver Bow Creek above Sand Creek	9.7	5.4	5.0	10.2
SS-11C	Silver Bow Creek above Browns Gulch	5.9	4.5	12.0	5.2
SS-11D	Silver Bow Creek below Browns Gulch	6.5	6.5	3.8	3.5
SS-13	Silver Bow Creek in Reach L	10.6	11.0	5.8	7.4
SS-14	Silver Bow Creek at Miles Crossing	11.0	9.7	5.0	5.0
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	3.9	5.9	3.9	3.2
SS-15G	German Gulch at mouth	1.5	1.4	1.2	1.8
SS-15B	Silver Bow Creek below German Gulch	6.8	17.2	6.3	6.0
SS-16B	Silver Bow Creek in Reach P near Fairmont	8.4	3.5	4.2	3.8
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	10.1	4.5	10.0	3.4
SS-19	Silver Bow Creek at Frontage Road	11.3	4.8	70.2	10.2
Mid fraction (0.065-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.2[J]	0.2	0.1[J]	0.2[J]
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	2.1	3.7[J]	2.5	4.2[J]
SS-06G	Silver Bow Creek above Butte WWTP	0.9	1.0	1.2	1.3[J]
SS-07	Silver Bow Creek below Butte WWTP	1.1	1.1[J]	0.9	1.1[J]
SS-08	Silver Bow Creek at Rocker	4.9	1.7[J]	2.2	1.4[J]
SS-10A	Silver Bow Creek above Sand Creek	3.7	2.5	1.6	4.2[J]
SS-11C	Silver Bow Creek above Browns Gulch	0.6	0.6	1.2	1.2[J]
SS-11D	Silver Bow Creek below Browns Gulch	0.7	0.6	0.2	0.3
SS-13	Silver Bow Creek in Reach L	2.7	0.5	0.7	1.0
SS-14	Silver Bow Creek at Miles Crossing	1.9	1.4	0.5	0.5
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	1.4	1.9	6.2[J]	1.0

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15G	German Gulch at mouth	0.08[J]	ND	ND	ND
SS-15B	Silver Bow Creek below German Gulch	1.5	1.2	0.3	0.6
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.9	0.8	0.6	0.7
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.1	1.1[J]	0.8	0.7
SS-19	Silver Bow Creek at Frontage Road	1.0	0.6	3.6[J]	0.8
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.08[J]	0.1[J]	ND	0.2[J]
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	1.2	2.7	2	1.5
SS-06G	Silver Bow Creek above Butte WWTP	0.7	0.6	0.8	0.9
SS-07	Silver Bow Creek below Butte WWTP	0.5	0.5	0.5	0.8
SS-08	Silver Bow Creek at Rocker	1.1	0.6	0.6	0.6
SS-10A	Silver Bow Creek above Sand Creek	1.1	1.9	0.7	1.7
SS-11C	Silver Bow Creek above Browns Gulch	0.5	0.3	0.4	0.5
SS-11D	Silver Bow Creek below Browns Gulch	1.1	0.3	0.2	0.3
SS-13	Silver Bow Creek in Reach L	0.9	0.3	0.3	ND
SS-14	Silver Bow Creek at Miles Crossing	0.7	0.5	0.4	0.4
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.5	0.7	0.5	1.1
SS-15B	Silver Bow Creek below German Gulch	1.5[J]	0.6	0.2[J]	ND
SS-16B	Silver Bow Creek in Reach P near Fairmont	1.1[J]	0.3	0.4	0.5
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.3	0.2[J]	0.6	ND
SS-19	Silver Bow Creek at Frontage Road	0.2	0.6	2.4	0.4

--- Not sampled.

J Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 40 percent.

ND Not detected at analytical reporting limit.

Table 2-9. Weighted mean (by size fraction) for total cadmium concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.2	0.2	DNA	0.2
SS-04	Blacktail Creek at Metro Storm Drain Confluence	DNA	DNA	DNA	DNA
SLAG-01	Silver Bow Creek in Slag Canyon	DNA	DNA	DNA	DNA
SS-05A	Silver Bow Creek above Butte Reduction Works	1.4	1.7	2.6	3.5
SS-06G	Silver Bow Creek above Butte WWTP	1.3	0.5	0.7	0.8
SS-07	Silver Bow Creek below Butte WWTP	0.9	0.7	0.6	0.9
SS-08	Silver Bow Creek at Rocker	4.3	0.9	1.3	1.1
SS-10A	Silver Bow Creek above Sand Creek	3.	2.6	1.3	3.3
SS-11C	Silver Bow Creek above Browns Gulch	0.3	0.3	0.6	0.8
SS-11D	Silver Bow Creek below Browns Gulch	0.8	0.3	0.2	0.4
SS-13	Silver Bow Creek in Reach L	2.1	0.4	0.5	DNA
SS-14	Silver Bow Creek at Miles Crossing	4.4	1.5	0.5	0.4
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.8	1.5	2.5	0.6
SS-15G	German Gulch at mouth	0.2	DNA	DNA	DNA
SS-15B	Silver Bow Creek below German Gulch	1.2	2.5	0.2	DNA
SS-16B	Silver Bow Creek in Reach P near Fairmont	1.4	1.0	0.9	0.7
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1.0	1.3	1.3	DNA
SS-19	Silver Bow Creek at Frontage Road	0.5	0.3	3.3	0.7

DNA Does not apply because one or more sample fractions had ND concentration.

Exceeds the threshold effect concentration [MacDonald et al., 2000].

Exceeds the probable effect concentration [MacDonald et al., 2000].

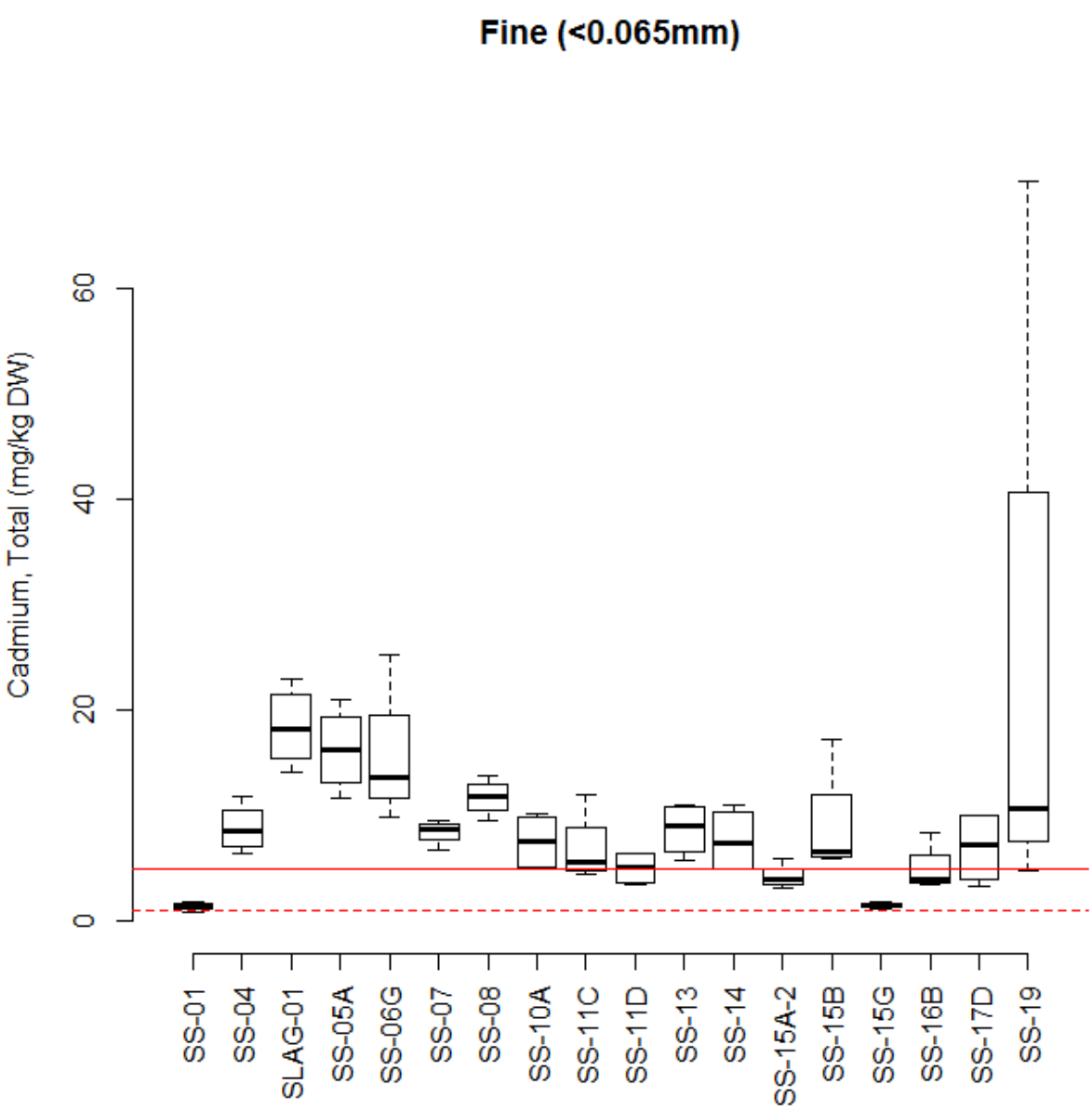

Figure 2-10. Total cadmium concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2018. Solid red line is the 4.98 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.99 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

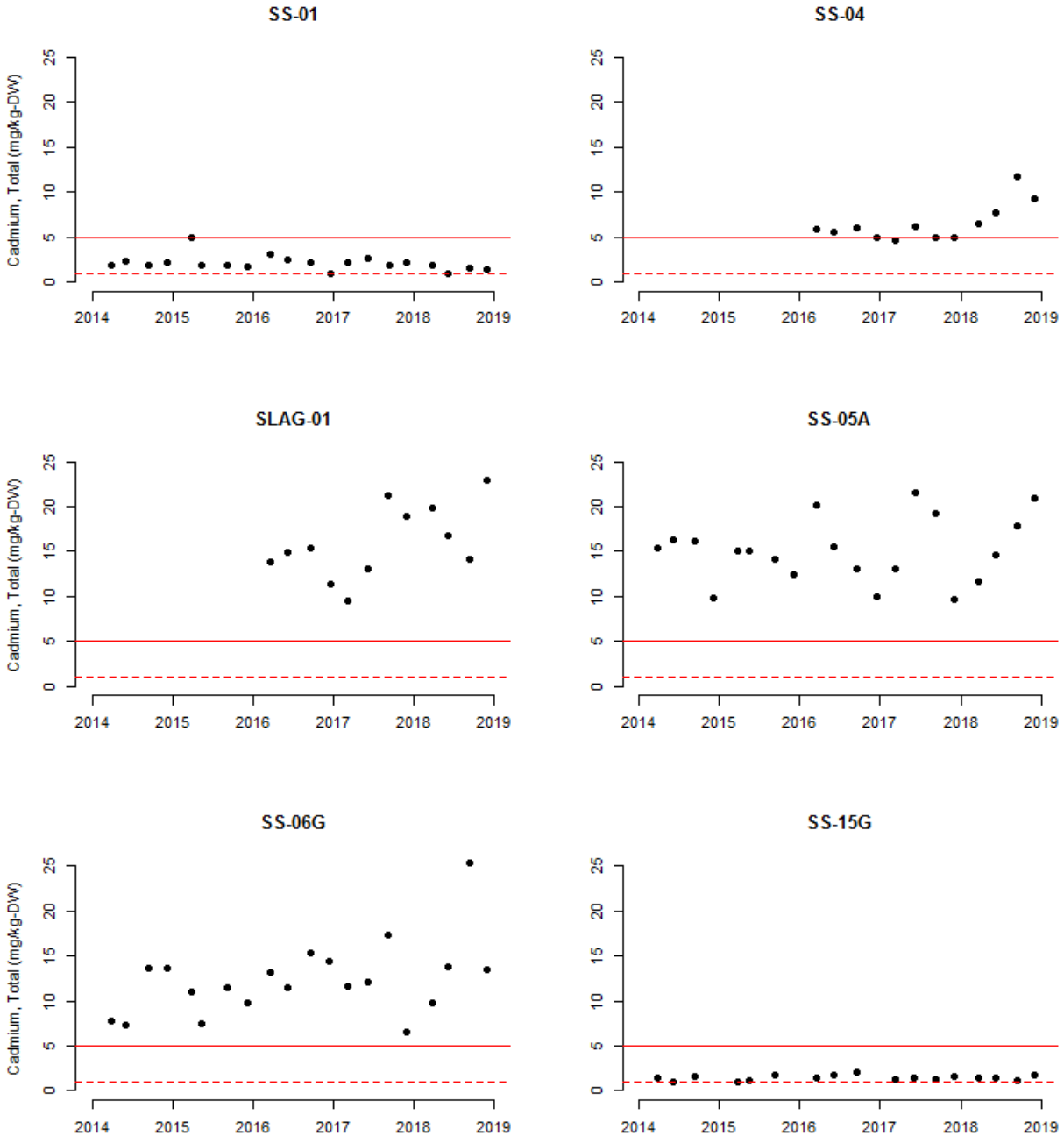

Figure 2-11. Fine fraction (<0.063 mm) total dry-weight cadmium concentrations (mg/kg-DW) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Blacktail Creek at Metro Storm Drain Confluence (Site SS-04), Silver Bow Creek in Slag Canyon (SLAG-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Solid red line is the 4.98 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.99 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000]. Samples with concentrations below the analytical reporting limit (RL) are represented with concentrations at half the RL.

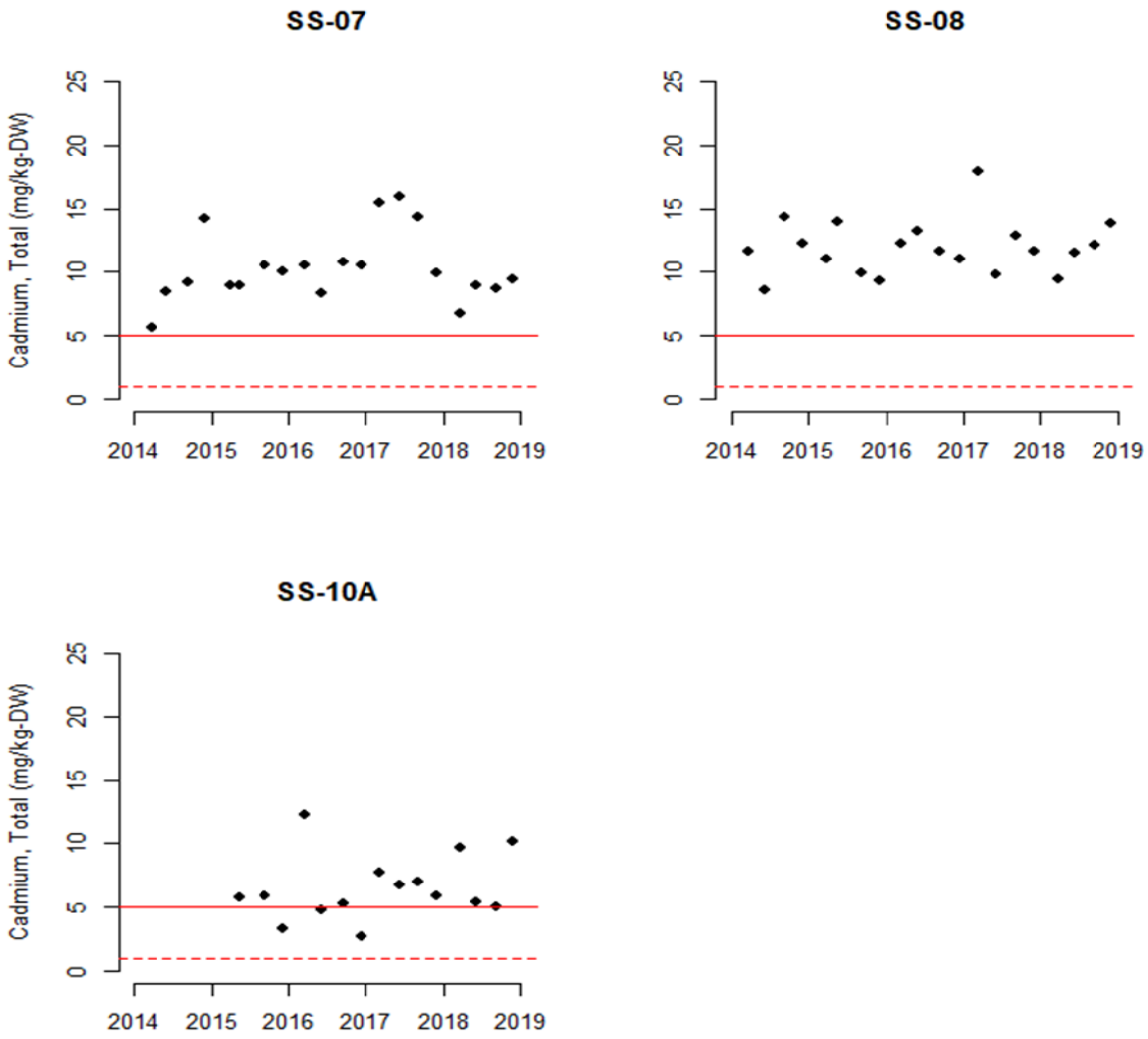

Figure 2-12. Fine fraction (<0.063 mm) total dry-weight cadmium concentrations (mg/kg-DW) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Solid red line is the 4.98 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.99 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

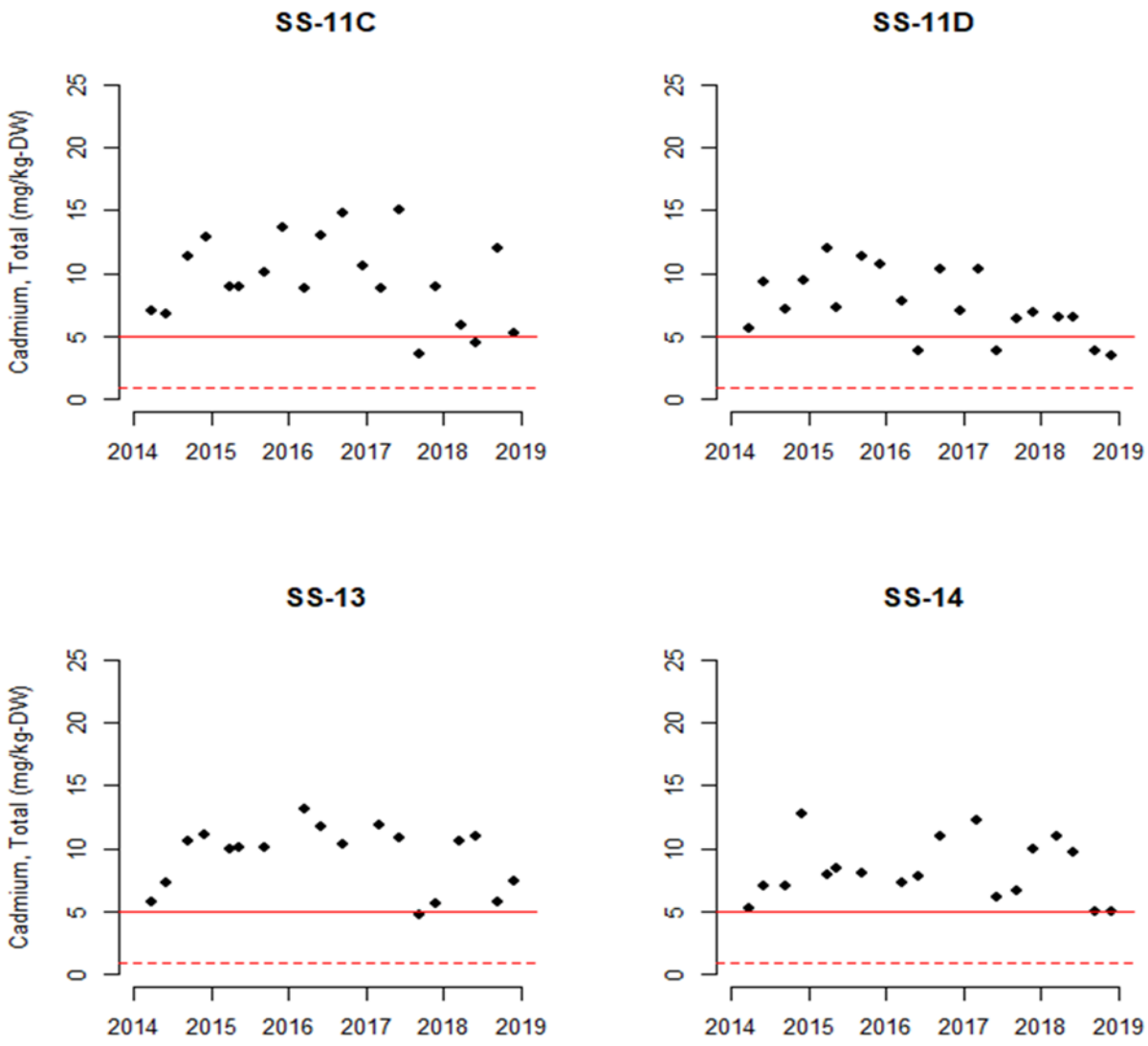

Figure 2-13. Fine fraction (<0.063 mm) total dry-weight cadmium concentrations (mg/kg-DW) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Solid red line is the 4.98 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.99 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

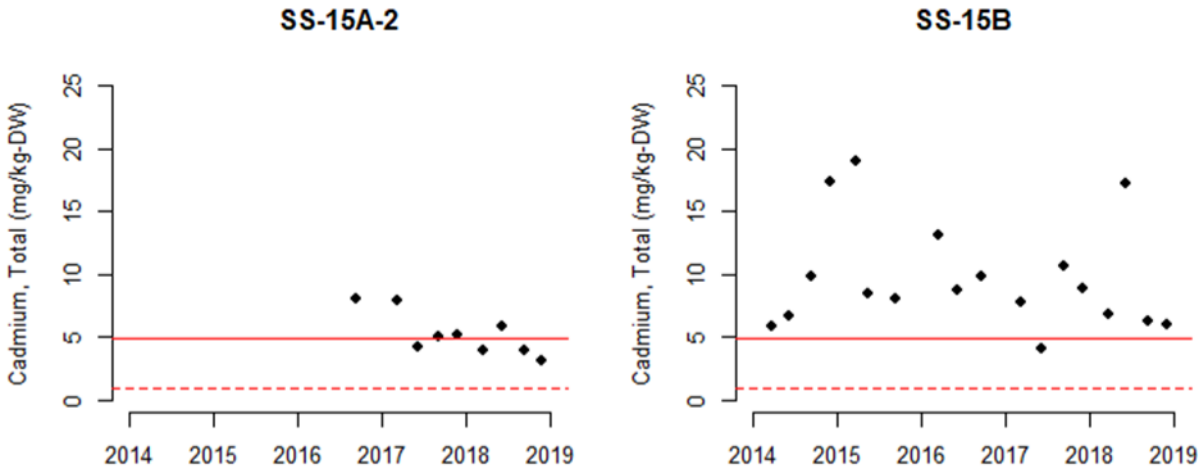

Figure 2-14. Fine fraction (<0.063 mm) total dry-weight cadmium concentrations (mg/kg-DW) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above German Gulch (Alternate Site, Site SS-15A-2), Silver Bow Creek above (Site SS-15A) and below (Site SS-15B) German Gulch. Solid red line is the 4.98 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.99 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

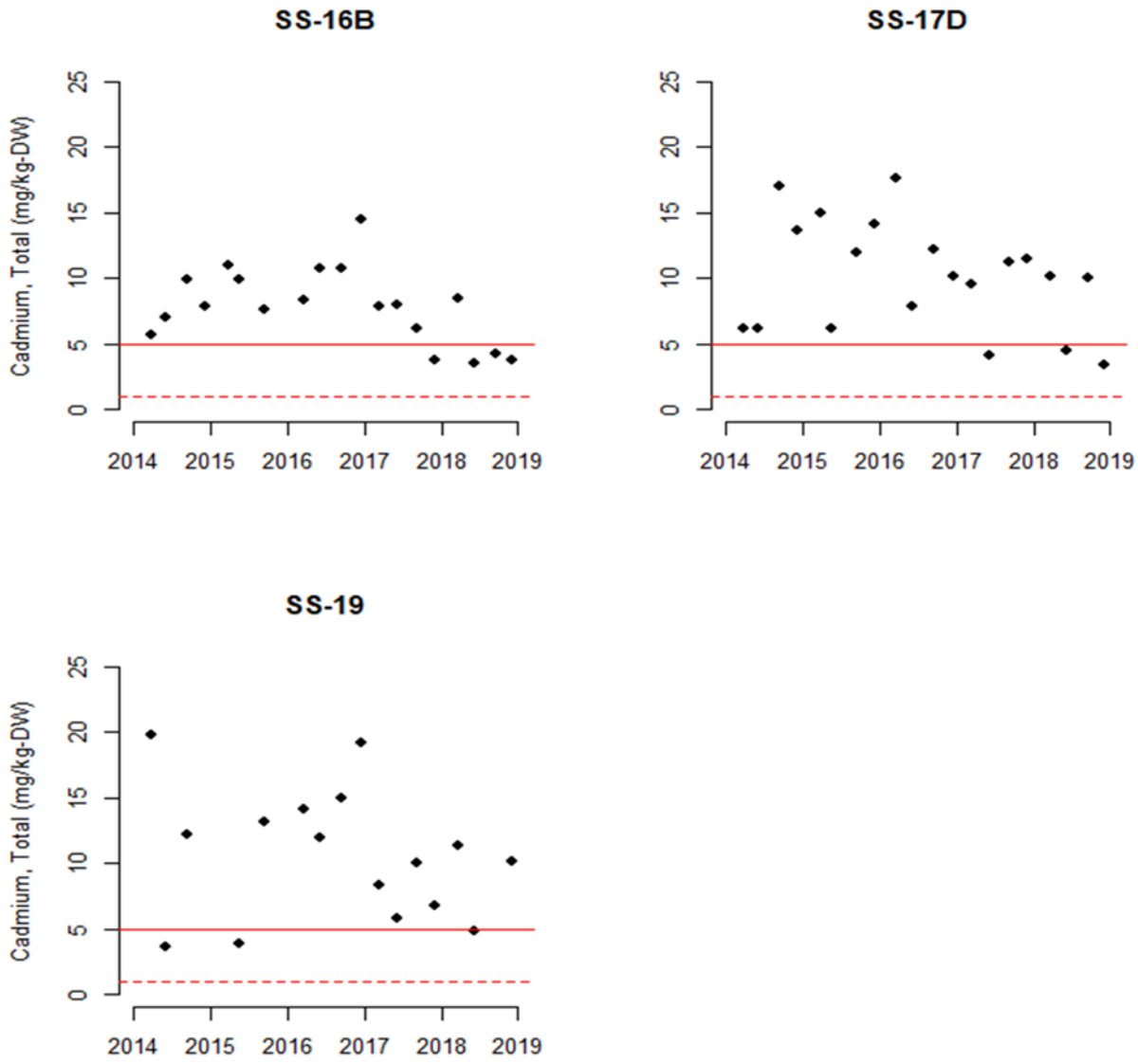

Figure 2-15. Fine fraction (<0.063 mm) total dry-weight cadmium concentrations (mg/kg-DW) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19) [38]. Solid red line is the 4.98 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.99 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

[38] One sample result at Site SS-19 is not depicted (97 mg/kg-DW on March 26, 2015).

2.4.2.3 Copper

Among all samples collected in 2018, sediment copper concentrations ranged from 78-6,970 mg/kg-DW in the <0.063 mm size fraction, from 14-993 mg/kg-DW in the 0.065-1 mm size fraction, and from 8-835 mg/kg-DW in the 1-2 mm size fraction (Table 2-10). Weighted mean concentrations ranged from 18-602 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions (Table 2-11). Based on the weighted mean concentrations, exceedances of the TEC occurred in 48 samples and the PEC was exceeded in 11 samples; weighted mean concentrations were not determined for samples from Sites SS-04 or SLAG-01 because only the fine fraction (<0.063 mm) concentrations were analyzed (Table 2-11).

Spatially, fine fraction (<0.063 mm) median copper concentrations increased between each site from Blacktail Creek at Father Sheehan Park (Site SS-01) downstream to Silver Bow Creek above the Butte Reduction Works (Site SS-05A), decreased sharply between Site SS-05A and downstream to Silver Bow Creek above Butte WWTP (Site SS-06G), then decreased gradually downstream to sites near Browns Gulch (Sites SS-11C and SS-11D), and then remained relatively constant downstream through the remainder of the SSTOU (Site SS-19) (Figure 2-16). Median concentrations in Silver Bow Creek below German Gulch (Site SS-15B) were slightly higher than adjacent sites (Figure 2-16) due to an elevated sample in Q2 (3,240 mg/kg)-DW (Table 2-10).

In "background" sites, fine fraction (<0.063 mm) median copper concentrations were approximately two times the PEC in Blacktail Creek at Father Sheehan Park (Site SS-01) and between the TEC and PEC in German Gulch (Site SS-15G) (Figure 2-16). Median concentrations in all SSTOU sites were well above both background sites (Figure 2-16).

Since 2014, copper concentrations were relatively constant through time at the background sites in Blacktail Creek (Site SS-01) and German Gulch (Site SS-15G) (Figure 2-17). In the Blacktail Creek background site (Site SS-01), the concentrations were generally slightly above the PEC whereas in the German Gulch background site (Site SS-15G) were generally slightly lower (Figure 2-17). None of the reference sites (Sites SS-04, SLAG-01, SS-05A, and SS-06G) demonstrated clear directional (i.e., monotonic) trends, although in 2018 concentrations at Site SS-04 were higher than prior years (Figure 2-17). In Subareas 1 and 2 no positive or negative trends were apparent (Figure 2-18; Figure 2-19). In Subarea 3, concentrations appear to be decreasing at each site but the Q2 2018 sample was quite elevated (Figure 2-19). In Subarea 4, concentrations at the Silver Bow Creek sites at Fairmont (Site SS-16B) and Opportunity (Site SS-17D) appear to be decreasing through time (Figure 2-21). No temporal trend is apparent at the Frontage Road site (Site SS-19), primarily due to the high degree of variability in the results (Figure 2-21).

Table 2-10. Total copper concentrations (mg/kg dry weight) by size fraction in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	343	182	332	237
SS-04	Blacktail Creek at Metro Storm Drain Confluence	734	1,520	3,310	1,480
SLAG-01	Silver Bow Creek in Slag Canyon	1,580	1,700	6,970	1,470
SS-05A	Silver Bow Creek above Butte Reduction Works	3,330	3,480	3,180	2,650
SS-06G	Silver Bow Creek above Butte WWTP	674	1,240	1,170	1,170
SS-07	Silver Bow Creek below Butte WWTP	612	1,020	1,060	948
SS-08	Silver Bow Creek at Rocker	607	626	1,090	860
SS-10A	Silver Bow Creek above Sand Creek	714	341	349	685
SS-11C	Silver Bow Creek above Browns Gulch	597	362	652	326
SS-11D	Silver Bow Creek below Browns Gulch	359	348	321	235
SS-13	Silver Bow Creek in Reach L	617	465	399	450
SS-14	Silver Bow Creek at Miles Crossing	866	664	412	332
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	376	369	333	265
SS-15G	German Gulch at mouth	84	105	78	129
SS-15B	Silver Bow Creek below German Gulch	621	3,240	576	445
SS-16B	Silver Bow Creek in Reach P near Fairmont	507	243	692	324
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	569	313	477	270
SS-19	Silver Bow Creek at Frontage Road	635	243	677	644
Mid fraction (0.063-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	28	35[J]	30	27
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	744	595[J]	582	993
SS-06G	Silver Bow Creek above Butte WWTP	108	238[J]	134	135
SS-07	Silver Bow Creek below Butte WWTP	192	168[J]	150	163
SS-08	Silver Bow Creek at Rocker	308	105[J]	251	222
SS-10A	Silver Bow Creek above Sand Creek	190	145[J]	94	211
SS-11C	Silver Bow Creek above Browns Gulch	42	25[J]	42	37
SS-11D	Silver Bow Creek below Browns Gulch	33	22	14	17
SS-13	Silver Bow Creek in Reach L	95	19	20	47
SS-14	Silver Bow Creek at Miles Crossing	97	65	30	22
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	177	206	132	163
SS-15G	German Gulch at mouth	17	21	20	20
SS-15B	Silver Bow Creek below German Gulch	120	179	39	32
SS-16B	Silver Bow Creek in Reach P near Fairmont	96	82	81	78

SS-17D	Silver Bow Creek below Stewart Street at Opportunity	130	90	56	60
SS-19	Silver Bow Creek at Frontage Road	116	56	52	71
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	12	13	8	21
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	835[J]	374[J]	421	304[J]
SS-06G	Silver Bow Creek above Butte WWTP	238[J]	115[J]	83	145[J]
SS-07	Silver Bow Creek below Butte WWTP	53[J]	93[J]	116	137[J]
SS-08	Silver Bow Creek at Rocker	173[J]	110[J]	64	82[J]
SS-10A	Silver Bow Creek above Sand Creek	96[J]	87[J]	76	103[J]
SS-11C	Silver Bow Creek above Browns Gulch	49[J]	19	30	250[J]
SS-11D	Silver Bow Creek below Browns Gulch	30[J]	62[J]	18	18
SS-13	Silver Bow Creek in Reach L	34	125[J]	13	13
SS-14	Silver Bow Creek at Miles Crossing	32	30	16	18
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	72	103[J]	233	163
SS-15G	German Gulch at mouth	39[J]	55[J]	41	78
SS-15B	Silver Bow Creek below German Gulch	70	331[J]	39	31
SS-16B	Silver Bow Creek in Reach P near Fairmont	73	73[J]	81	85
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	34	30[J]	57	46
SS-19	Silver Bow Creek at Frontage Road	36	97[J]	43	45

--- Not sampled.

J Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 40 percent.

ND Not detected at analytical reporting limit.

Table 2-11. Weighted mean (by size fraction) for total copper concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	32	28	27	21
SS-04	Blacktail Creek at Metro Storm Drain Confluence	DNA	DNA	DNA	DNA
SLAG-01	Silver Bow Creek in Slag Canyon	DNA	DNA	DNA	DNA
SS-05A	Silver Bow Creek above Butte Reduction Works	539	294	522	602
SS-06G	Silver Bow Creek above Butte WWTP	169	106	78	112
SS-07	Silver Bow Creek below Butte WWTP	117	113	101	120
SS-08	Silver Bow Creek at Rocker	299	81	140	138
SS-10A	Silver Bow Creek above Sand Creek	201	154	92	200
SS-11C	Silver Bow Creek above Browns Gulch	26	18	31	97
SS-11D	Silver Bow Creek below Browns Gulch	34	25	19	22
SS-13	Silver Bow Creek in Reach L	100	37	23	75
SS-14	Silver Bow Creek at Miles Crossing	323	90	34	21
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	99	146	124	92
SS-15G	German Gulch at mouth	25	31	27	39
SS-15B	Silver Bow Creek below German Gulch	75	431	27	32
SS-16B	Silver Bow Creek in Reach P near Fairmont	108	93	134	79
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	89	100	74	60
SS-19	Silver Bow Creek at Frontage Road	47	36	48	57

DNA Does not apply because one or more sample fractions had ND concentration.

Exceeds the threshold effect concentration [MacDonald et al., 2000].

Exceeds the probable effect concentration [MacDonald et al., 2000].

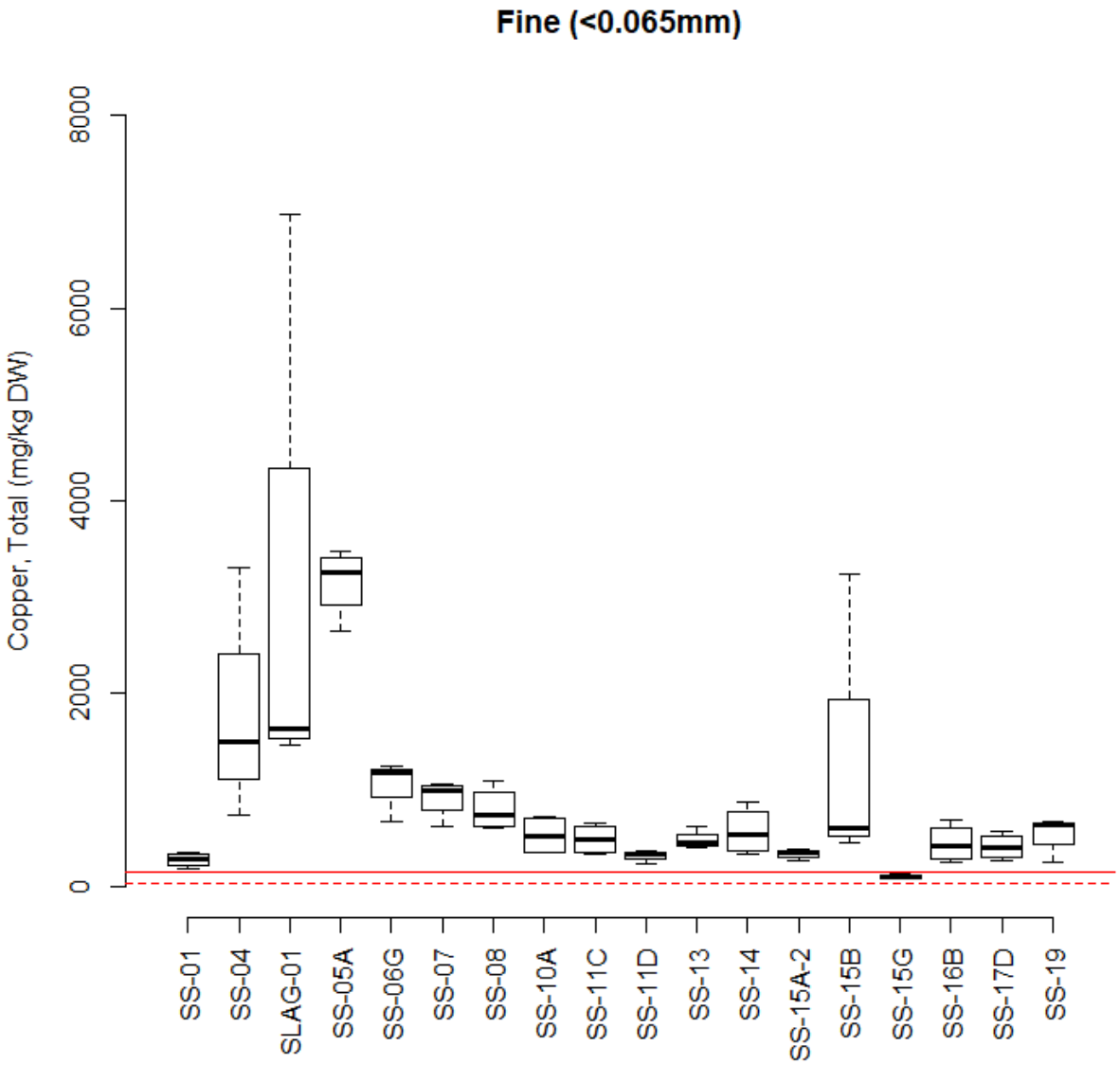

Figure 2-16. Total copper concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2018. Solid red line is the 149 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 31.6 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

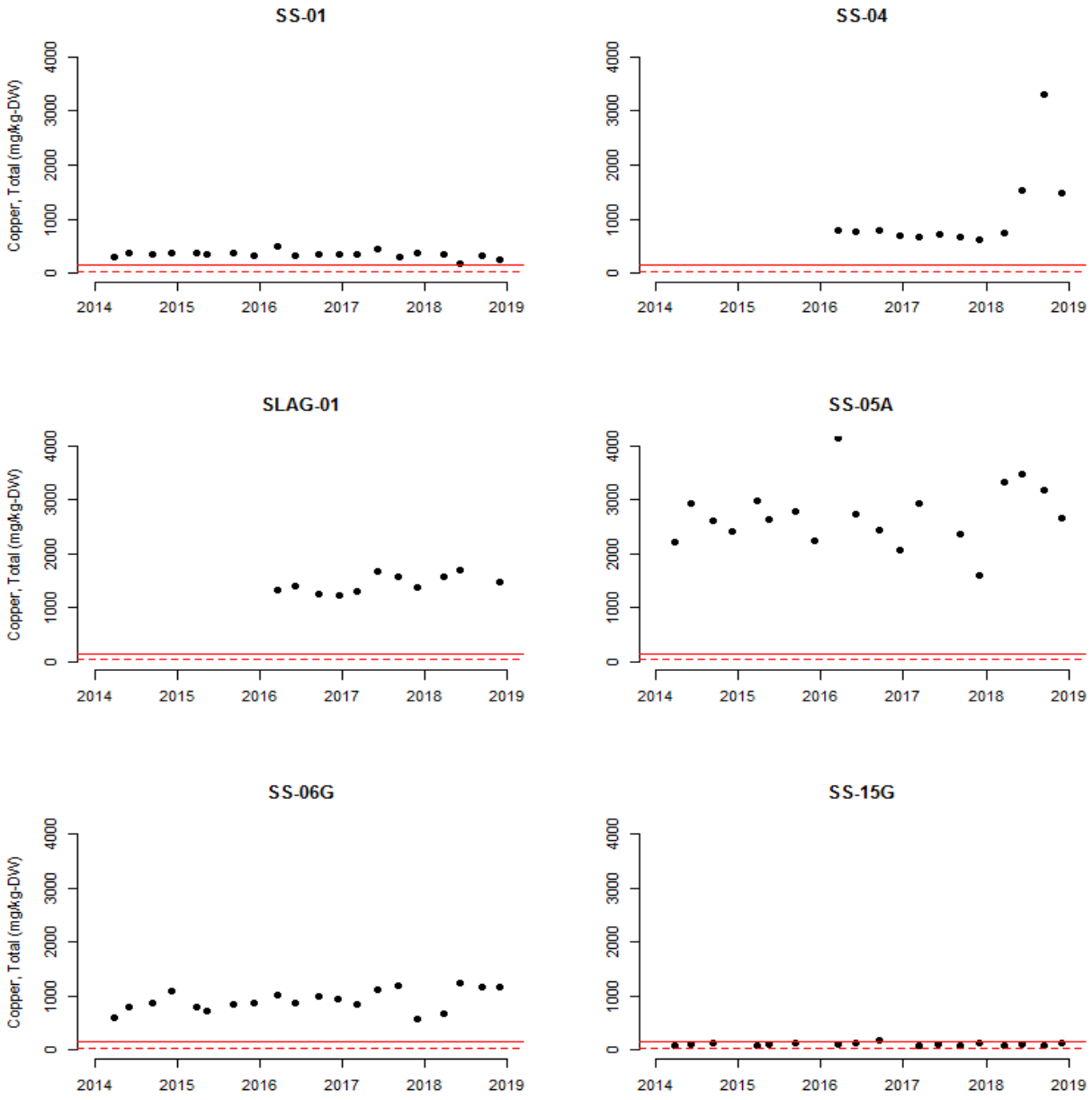

Figure 2-17. Fine fraction (<0.063 mm) total dry-weight copper concentrations (mg/kg-DW) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Blacktail Creek at Metro Storm Drain Confluence (Site SS-04), Silver Bow Creek in Slag Canyon (SLAG-01)[39], Silver Bow Creek above Butte Reduction Works (Site SS-05A)[40], Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Solid red line is the 149 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 31.6 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

[39] One outlier is not shown for Site SLAG-01 (6,970 mg/kg-DW on September 13, 2018).

[40] One outlier is not shown for Site SS-05A (5,610 mg/kg-DW on June 6, 2017).

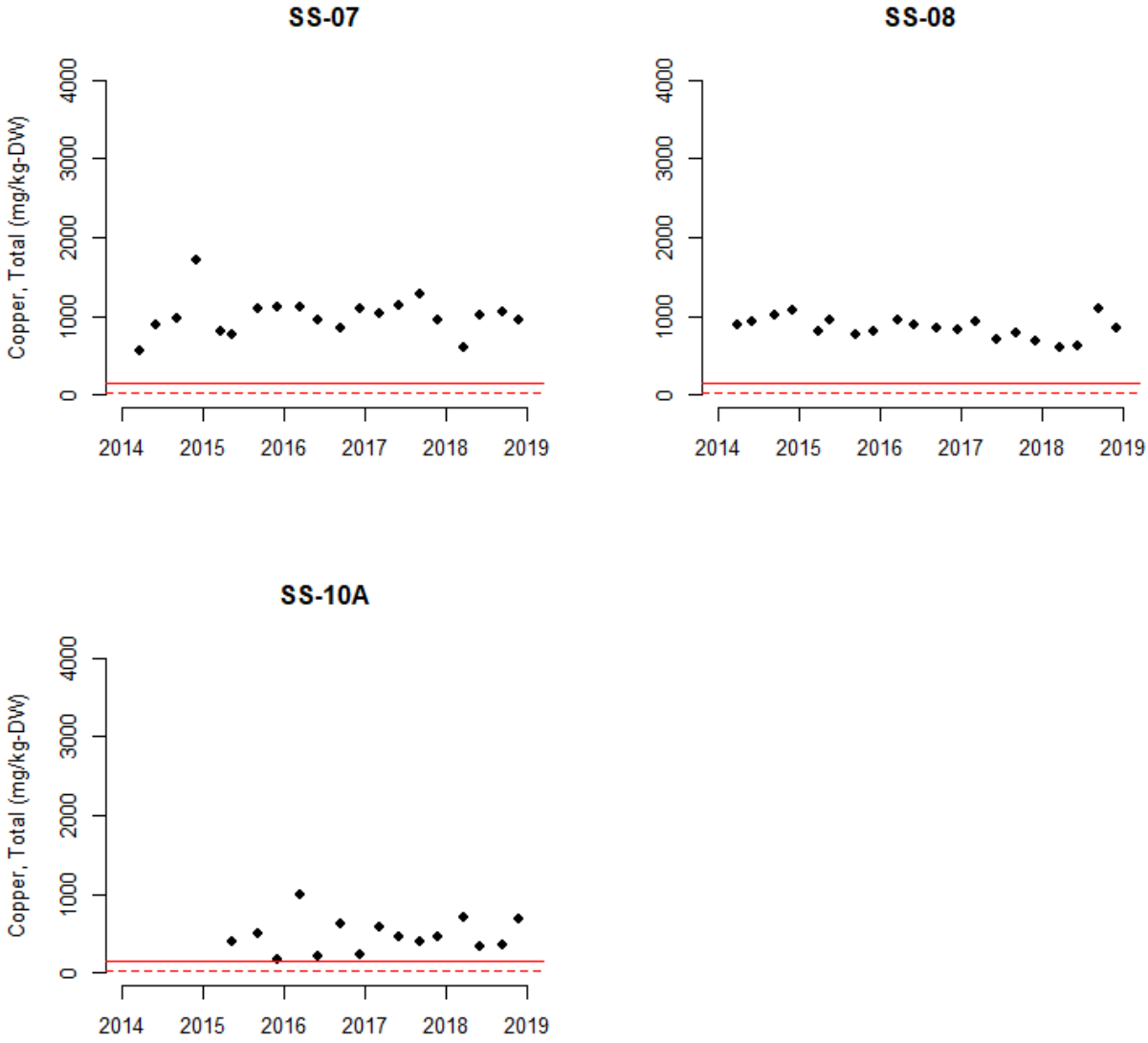

Figure 2-18. Fine fraction (<0.063 mm) total dry-weight copper concentrations (mg/kg-DW) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Solid red line is the 149 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 31.6 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

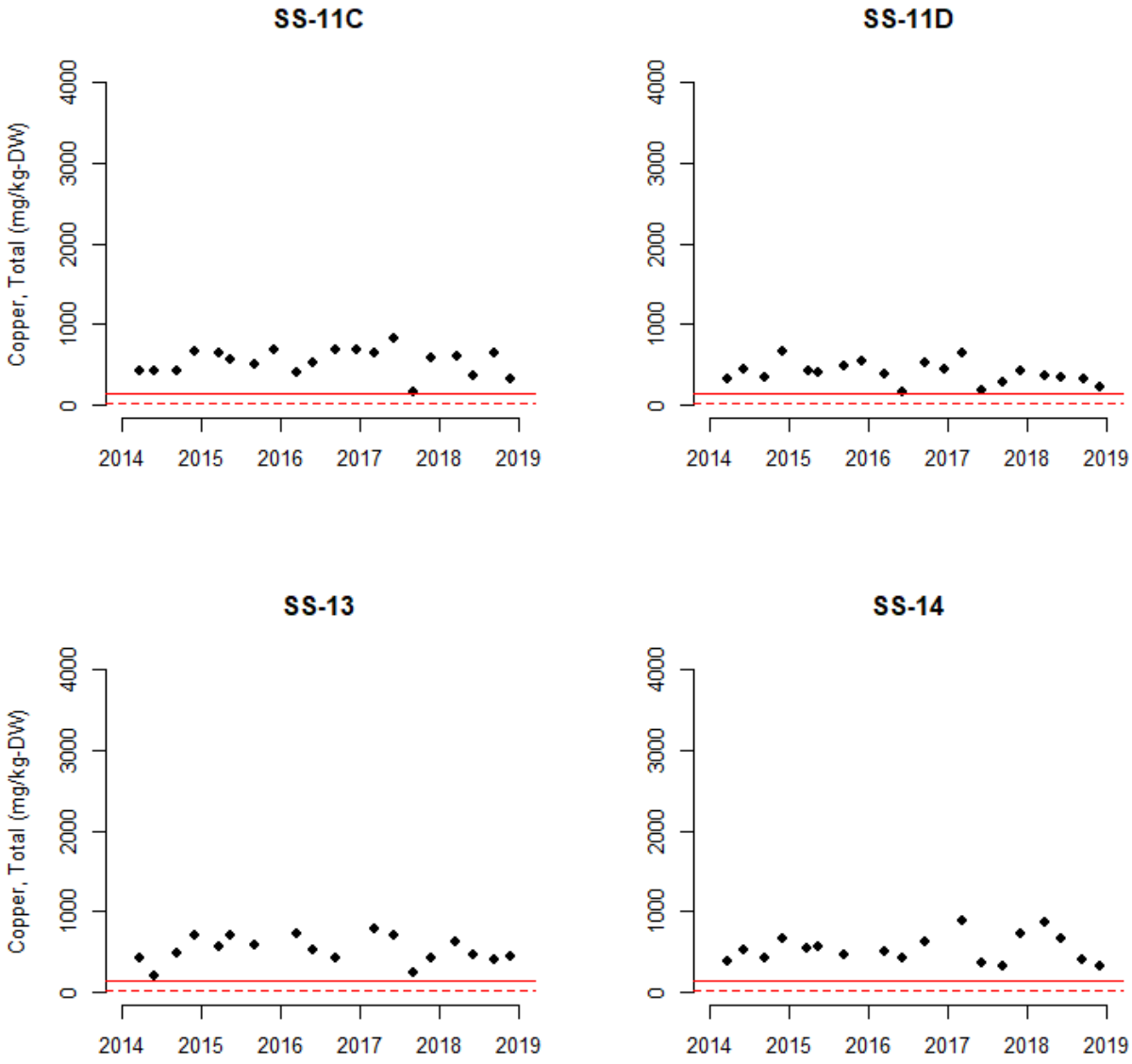

Figure 2-19. Fine fraction (<0.063 mm) total dry-weight copper concentrations (mg/kg-DW) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Solid red line is the 149 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 31.6 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

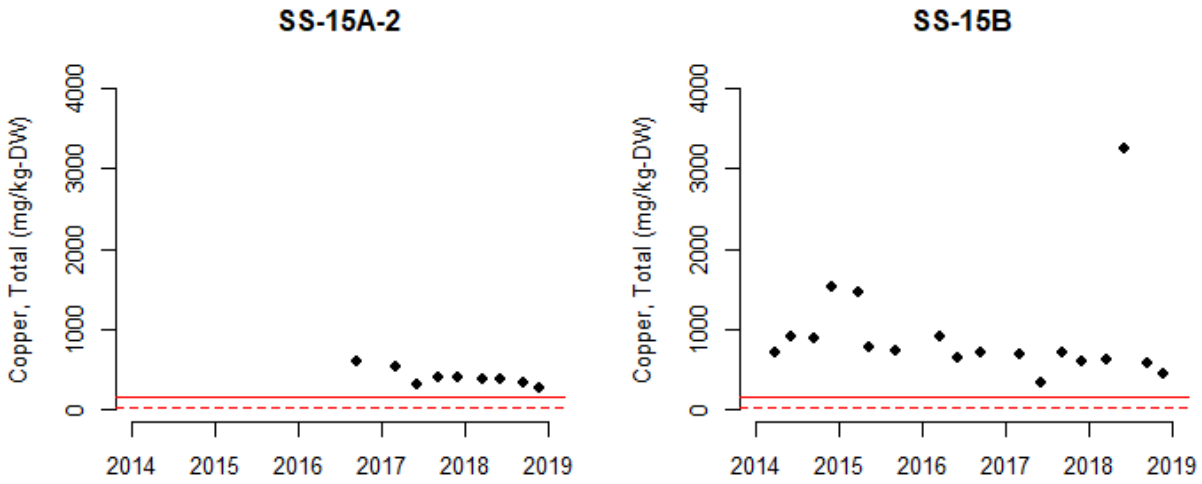

Figure 2-20. Fine fraction (<0.063 mm) total dry-weight copper concentrations (mg/kg-DW) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above German Gulch (Alternate Site, Site SS-15A-2), Silver Bow Creek above (Site SS-15A) and below (Site SS-15B) German Gulch. Solid red line is the 149 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 31.6 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

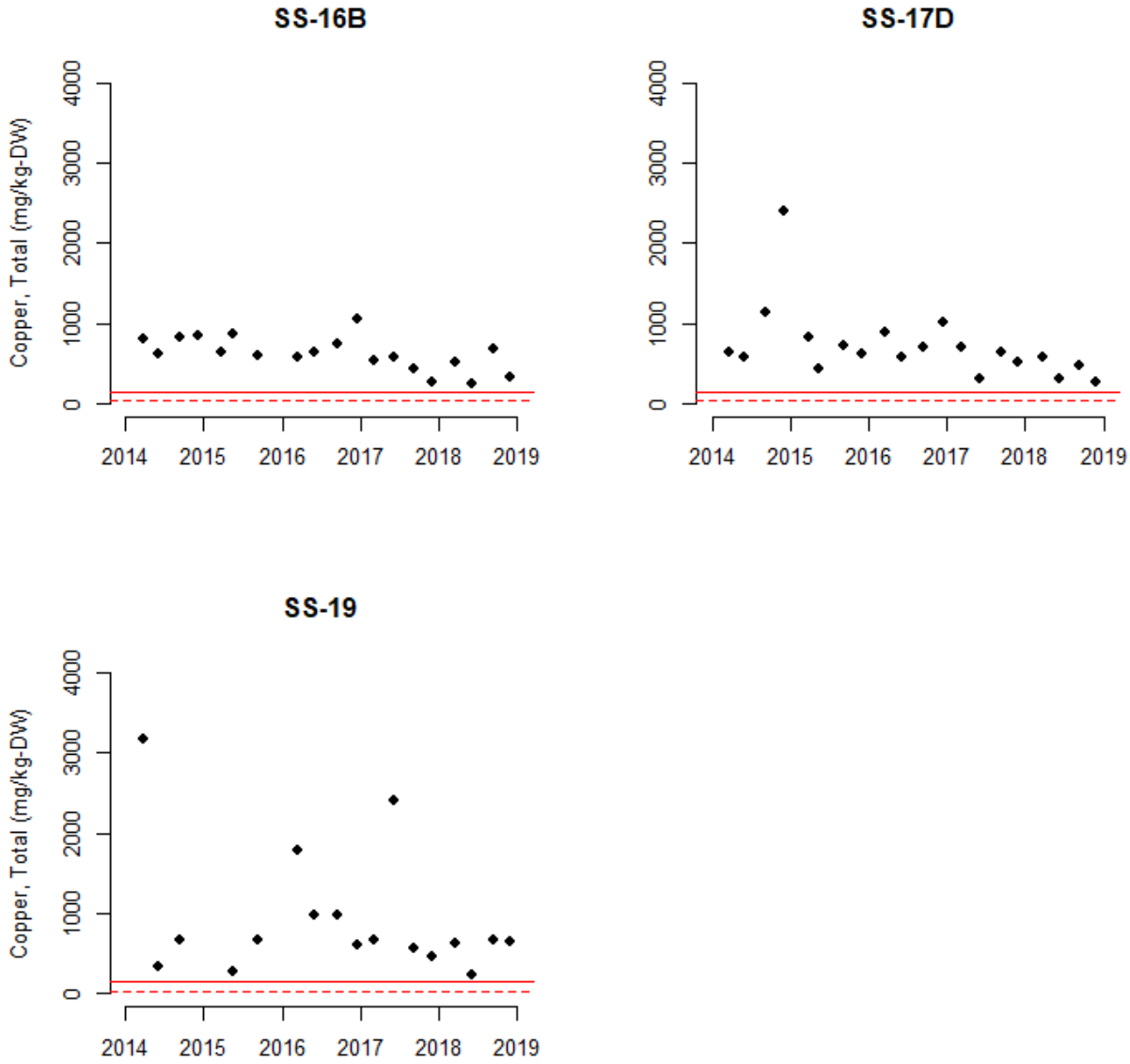

Figure 2-21. Fine fraction (<0.063 mm) total dry-weight copper concentrations (mg/kg-DW) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19) [41]. Solid red line is the 149 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 31.6 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

[41] One outlier is not depicted at Site SS-19 (35,700 mg/kg-DW on March 26, 2015).

2.4.2.4 Lead

Among all samples collected in 2018, sediment lead concentrations ranged from 54-1,230 mg/kg-DW in the <0.063 mm size fraction, from 5-882 mg/kg-DW in the 0.063-1 mm size fraction, and from 4.3-501 mg/kg-DW in the 1-2 mm size fraction (Table 2-12). Weighted mean concentrations ranged from 5.8-356 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions (Table 2-13). Based on the weighted mean concentrations, exceedances of the TEC occurred in 26 samples and the PEC was exceeded in 4 samples; weighted mean concentrations were not determined for eight samples because one or more size fractions were not sampled (Table 2-13).

Spatially, fine fraction (<0.063 mm) median lead concentrations increased between each site from Blacktail Creek at Father Sheehan Park (Site SS-01) downstream to Silver Bow Creek in Slag Canyon (Site SLAG-01), generally decreased downstream to Silver Bow Creek above Sand Creek (Site SS-10A), and then remained approximately level downstream to Silver Bow Creek at Opportunity (Site SS-17D) (Figure 2-22). In Subarea 3, the Silver Bow Creek below German Gulch site had an elevated median concentration (due to the Q2 sample; Table 2-12) relative to adjacent sites (Figure 2-22). In Subarea 4, Silver Bow Creek at Frontage Road (Site SS-19) also had an elevated median concentration (Figure 2-22).

In "background" sites, fine fraction (<0.063 mm) median lead concentrations were above the PEC in Blacktail Creek at Harrison Avenue (Site SS-01) and between the TEC and PEC in German Gulch (Site SS-15G) (Figure 2-22). In Subarea 1 and 2, median concentrations were well above background concentrations in Silver Bow Creek sites below the Butte WWTP (Site SS-07) and at Rocker (Site SS-08) but similar to background in all other Subarea 1 and 2 sites (Sites SS-10A, SS-11C, SS-11D, SS-13, and SS-14) (Figure 2-22). In Subarea 3, the median concentration at Site SS-15A-2 was similar to the background sites but below German Gulch (Site SS-15B) median concentrations were higher than background (Figure 2-22). Subarea 4 sites (Sites SS-16B, SS-17D, and SS-19) had median concentrations similar to background with the exception of Silver Bow Creek at Frontage Road which was higher than background (Figure 2-22).

Since 2014, lead concentrations were relatively constant and were generally at or slightly above the PEC at background sites in Blacktail Creek (Site SS-01) and German Gulch (Site SS-15G), with concentrations in Blacktail Creek consistently slightly higher than in German Gulch (Figure 2-23). None of the reference sites (Sites SS-04, SLAG-01, SS-05A, and SS-06G) demonstrated clear directional (i.e., monotonic) trends although some sites appear to demonstrate slight increasing trends (Figure 2-23). In Subareas 1, 2, and 3, no clear trends are apparent (Figure 2-24; Figure 2-25; Figure 2-26). In Subarea 4, concentrations at the Silver Bow Creek sites at Fairmont (Site SS-16B) and Opportunity (Site SS-17D) appear to be decreasing through time but no trend is apparent at the Frontage Road site (Site SS-19 (Figure 2-27).

Table 2-12. Total lead concentrations (mg/kg dry weight) by size fraction in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	150	173	116	268
SS-04	Blacktail Creek at Metro Storm Drain Confluence	244	587	662	421
SLAG-01	Silver Bow Creek in Slag Canyon	644	761	1,230	726
SS-05A	Silver Bow Creek above Butte Reduction Works	659	812	755	668
SS-06G	Silver Bow Creek above Butte WWTP	353	741	694	732
SS-07	Silver Bow Creek below Butte WWTP	288	514	554	483
SS-08	Silver Bow Creek at Rocker	227	409	506	674
SS-10A	Silver Bow Creek above Sand Creek	187	146	102	184
SS-11C	Silver Bow Creek above Browns Gulch	148	160	174	109
SS-11D	Silver Bow Creek below Browns Gulch	126	183	228	199
SS-13	Silver Bow Creek in Reach L	141	178	150	146
SS-14	Silver Bow Creek at Miles Crossing	171	176	134	223
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	151	136	114	101
SS-15G	German Gulch at mouth	168	54	68	99
SS-15B	Silver Bow Creek below German Gulch	185	874	253	255
SS-16B	Silver Bow Creek in Reach P near Fairmont	206	95	147	141
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	161	110	143	105
SS-19	Silver Bow Creek at Frontage Road	334	220	280	260
Mid fraction (0.065-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	9	26	13	18
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	149	129	181	882[D]
SS-06G	Silver Bow Creek above Butte WWTP	67	111	92	112
SS-07	Silver Bow Creek below Butte WWTP	75	64	55	71
SS-08	Silver Bow Creek at Rocker	78	49	71	50
SS-10A	Silver Bow Creek above Sand Creek	43	55	21	43
SS-11C	Silver Bow Creek above Browns Gulch	10	12	24	14
SS-11D	Silver Bow Creek below Browns Gulch	10	17	13	21
SS-13	Silver Bow Creek in Reach L	21	12	11	14
SS-14	Silver Bow Creek at Miles Crossing	18	21	11	9

SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	53[J]	43[J]	377[J]	39
SS-15G	German Gulch at mouth	5	8	6	7
SS-15B	Silver Bow Creek below German Gulch	43[J]	48[J]	36[J]	14
SS-16B	Silver Bow Creek in Reach P near Fairmont	37[J]	37[J]	30[J]	31
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	43[J]	33[J]	25	28
SS-19	Silver Bow Creek at Frontage Road	44[J]	29[J]	29[J]	47
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	4.4	9	4.3	7
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	501	122	159	71
SS-06G	Silver Bow Creek above Butte WWTP	227	37	71	69
SS-07	Silver Bow Creek below Butte WWTP	26	53	49	343
SS-08	Silver Bow Creek at Rocker	41	72	38	40
SS-10A	Silver Bow Creek above Sand Creek	38	50	29	19
SS-11C	Silver Bow Creek above Browns Gulch	8	6	7	79
SS-11D	Silver Bow Creek below Browns Gulch	16	29	14	24
SS-13	Silver Bow Creek in Reach L	11	13	9	6
SS-14	Silver Bow Creek at Miles Crossing	9	18	7	9
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	25	56	39	39
SS-15G	German Gulch at mouth	18	29	6	18
SS-15B	Silver Bow Creek below German Gulch	38	30	20	14
SS-16B	Silver Bow Creek in Reach P near Fairmont	18	17	25	24
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	18	7	21	21
SS-19	Silver Bow Creek at Frontage Road	10	17	18	17

--- Not sampled.

D Result obtained from analysis of diluted sample.

J Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 40 percent.

ND Not detected at analytical reporting limit.

Table 2-13. Weighted mean (by size fraction) for total lead concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	12	23	11	14
SS-04	Blacktail Creek at Metro Storm Drain Confluence	DNA	DNA	DNA	DNA
SLAG-01	Silver Bow Creek in Slag Canyon	DNA	DNA	DNA	DNA
SS-05A	Silver Bow Creek above Butte Reduction Works	167	71	152	356
SS-06G	Silver Bow Creek above Butte WWTP	124	46	59	76
SS-07	Silver Bow Creek below Butte WWTP	50	51	42	137
SS-08	Silver Bow Creek at Rocker	93	46	54	48
SS-10A	Silver Bow Creek above Sand Creek	53	63	27	48
SS-11C	Silver Bow Creek above Browns Gulch	6	8	10	32
SS-11D	Silver Bow Creek below Browns Gulch	13	14	15	25
SS-13	Silver Bow Creek in Reach L	23	9	11	24
SS-14	Silver Bow Creek at Miles Crossing	64	28	12	12
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	32	40	147	23
SS-15G	German Gulch at mouth	14	14	6	11
SS-15B	Silver Bow Creek below German Gulch	32	116	17	16
SS-16B	Silver Bow Creek in Reach P near Fairmont	42	40	36	31
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	30	36	27	25
SS-19	Silver Bow Creek at Frontage Road	18	12	25	29

DNA Does not apply because one or more sample fractions had ND concentration.

Exceeds the threshold effect concentration [MacDonald et al., 2000].

Exceeds the probable effect concentration [MacDonald et al., 2000].

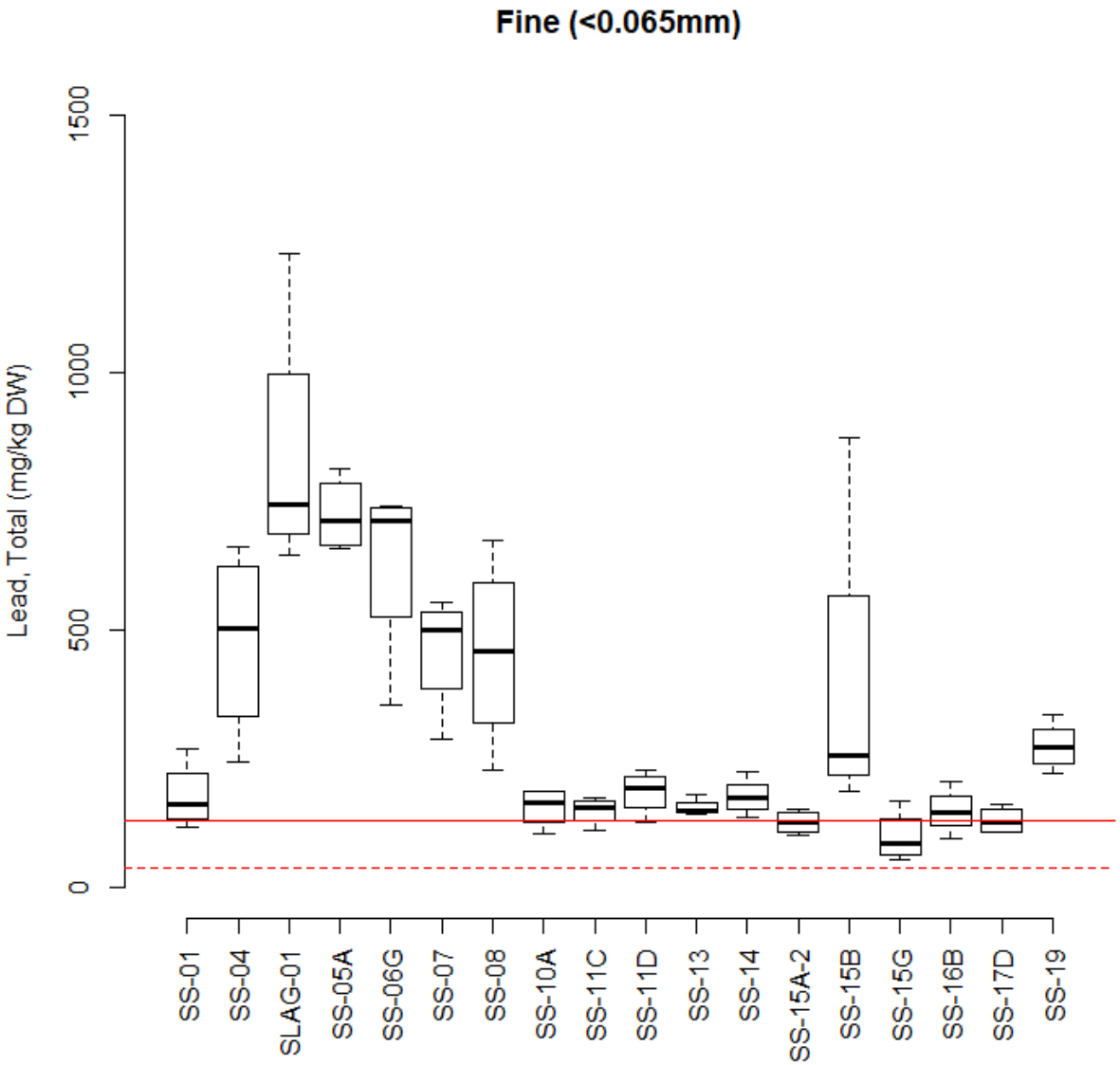

Figure 2-22. Total lead concentrations in instream sediment (<0.065 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2018. Solid red line is the 128 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 35.8 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

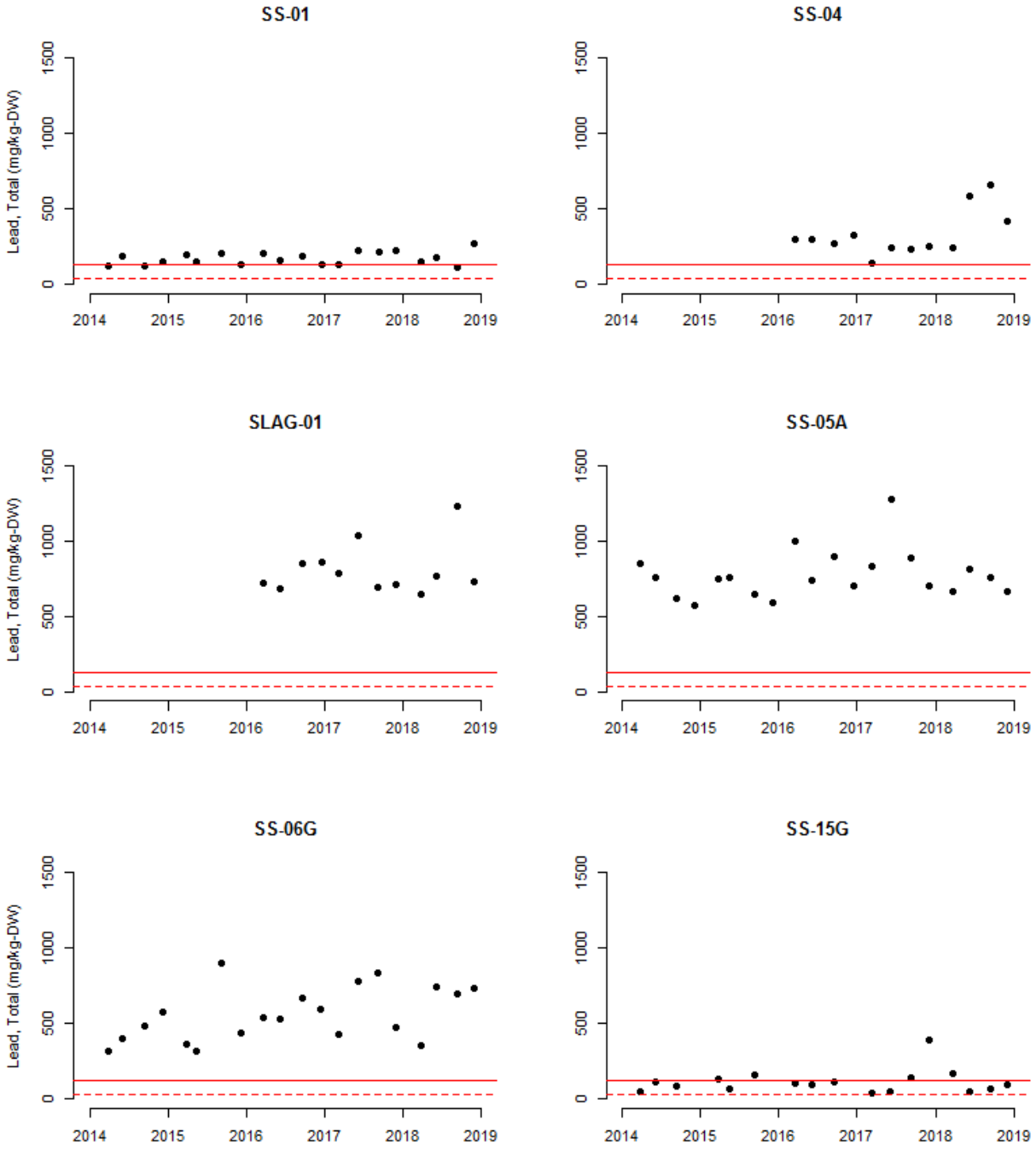

Figure 2-23. Fine fraction (<0.063 mm) total dry-weight lead concentrations (mg/kg-DW) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Blacktail Creek at Metro Storm Drain Confluence (Site SS-04), Silver Bow Creek in Slag Canyon (SLAG-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Solid red line is the 128 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 35.8 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

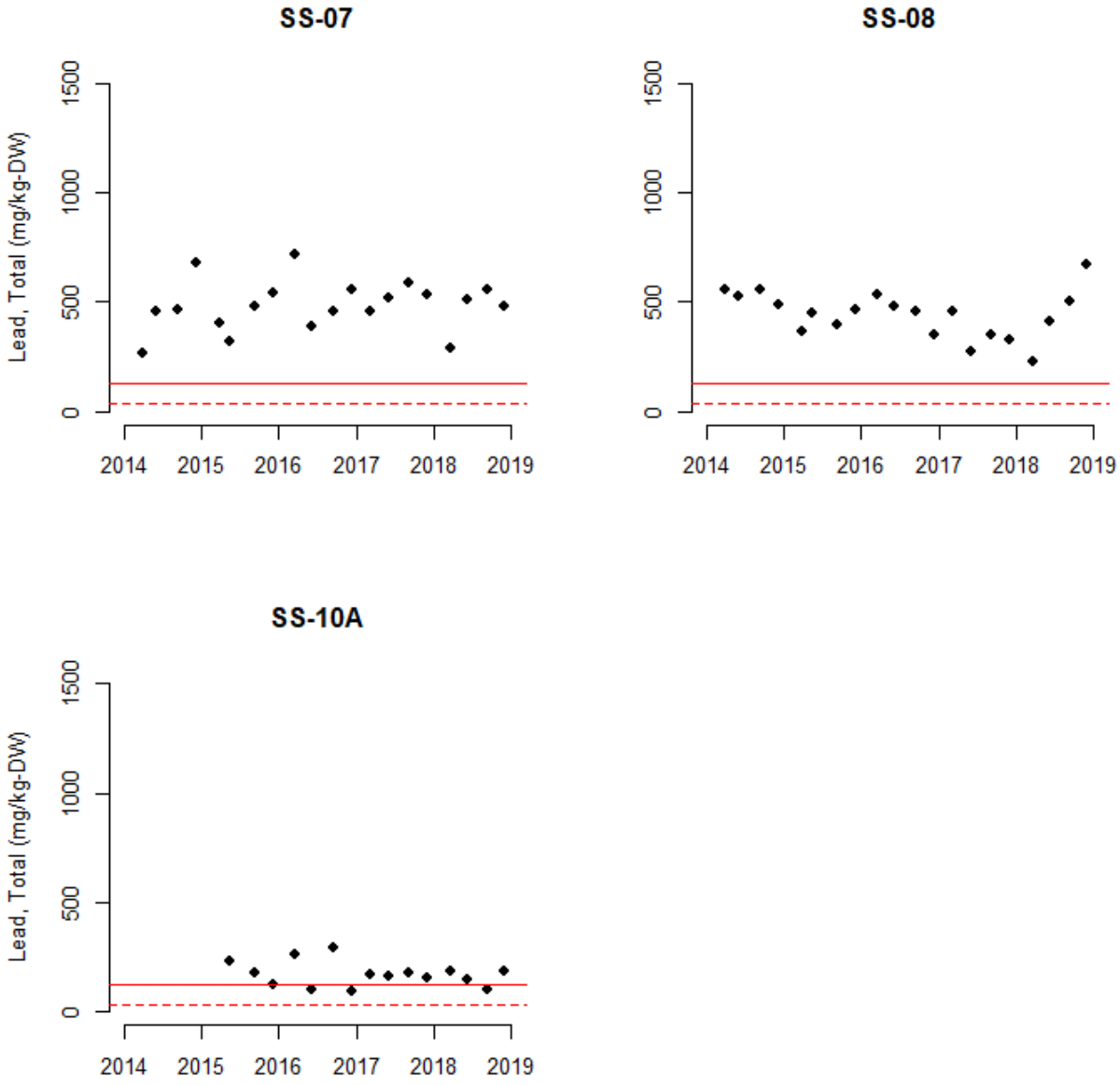

Figure 2-24. Fine fraction (<0.063 mm) total dry-weight lead concentrations (mg/kg-DW) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Solid red line is the 128 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 35.8 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

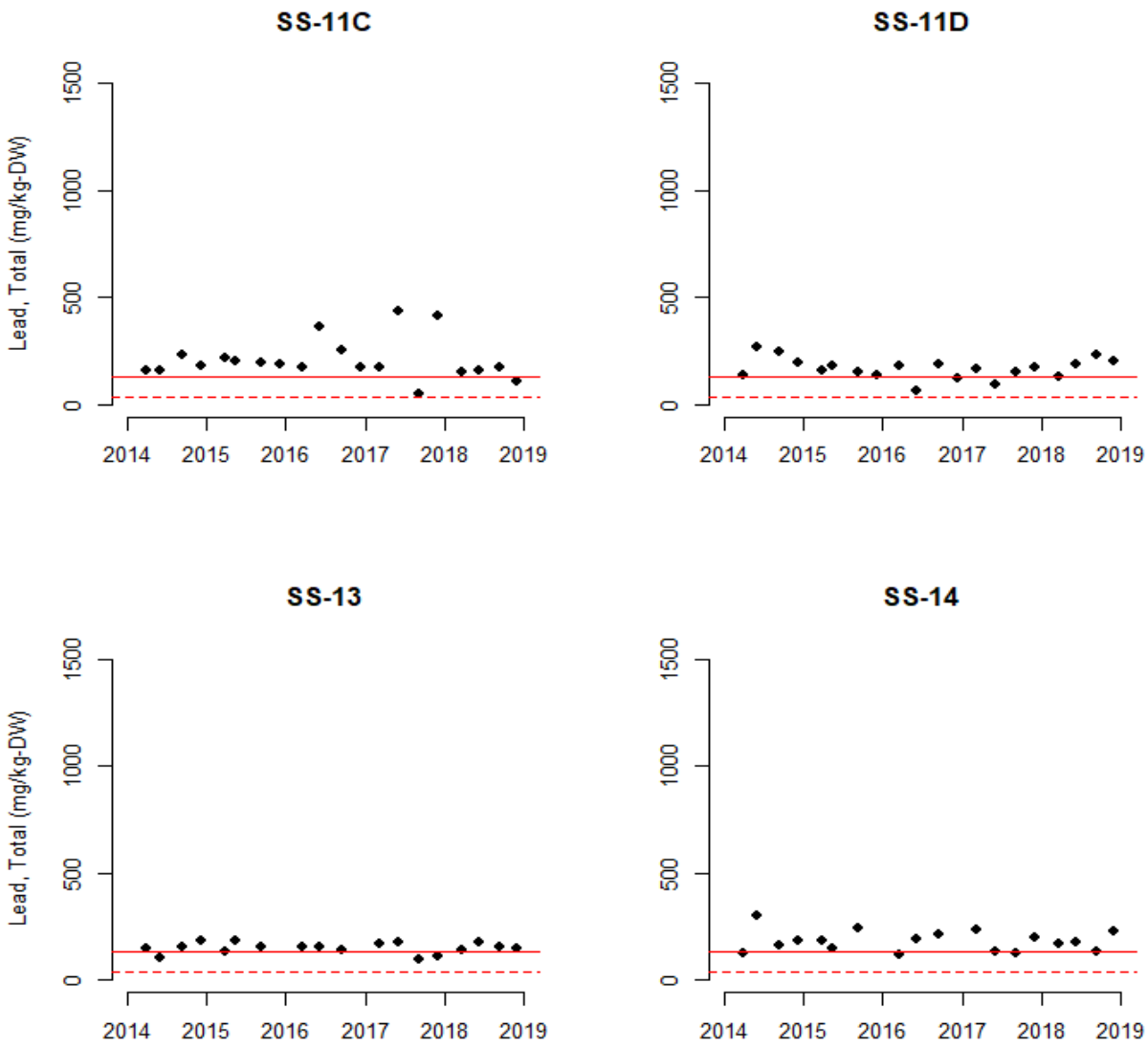

Figure 2-25. Fine fraction (<0.063 mm) total dry-weight lead concentrations (mg/kg-DW) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Solid red line is the 128 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 35.8 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

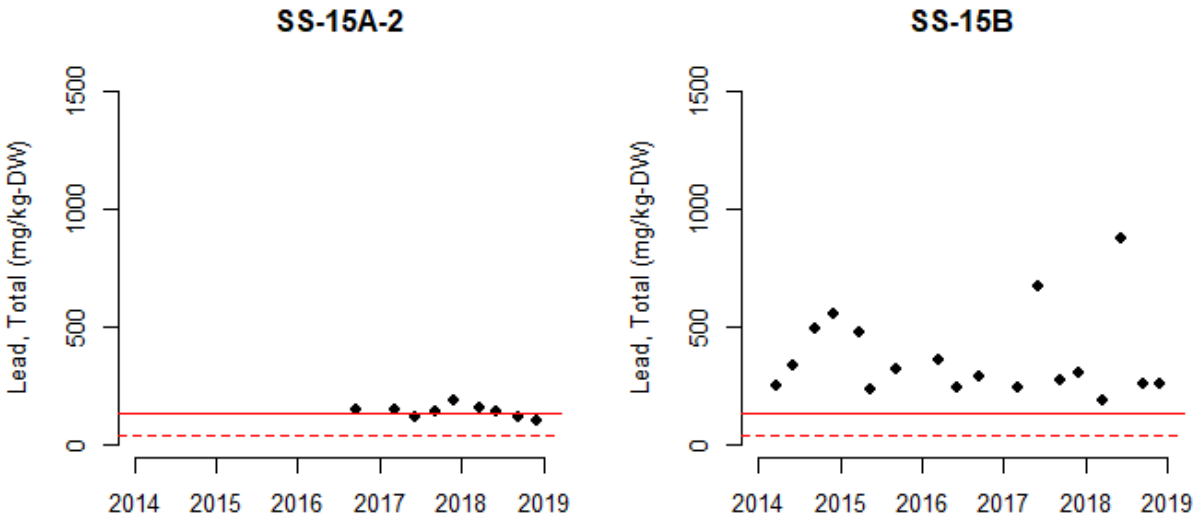

Figure 2-26. Fine fraction (<0.063 mm) total dry-weight lead concentrations (mg/kg-DW) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above German Gulch (Alternate Site, Site SS-15A-2), Silver Bow Creek above (Site SS-15A) and below (Site SS-15B) German Gulch. Solid red line is the 128 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 35.8 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

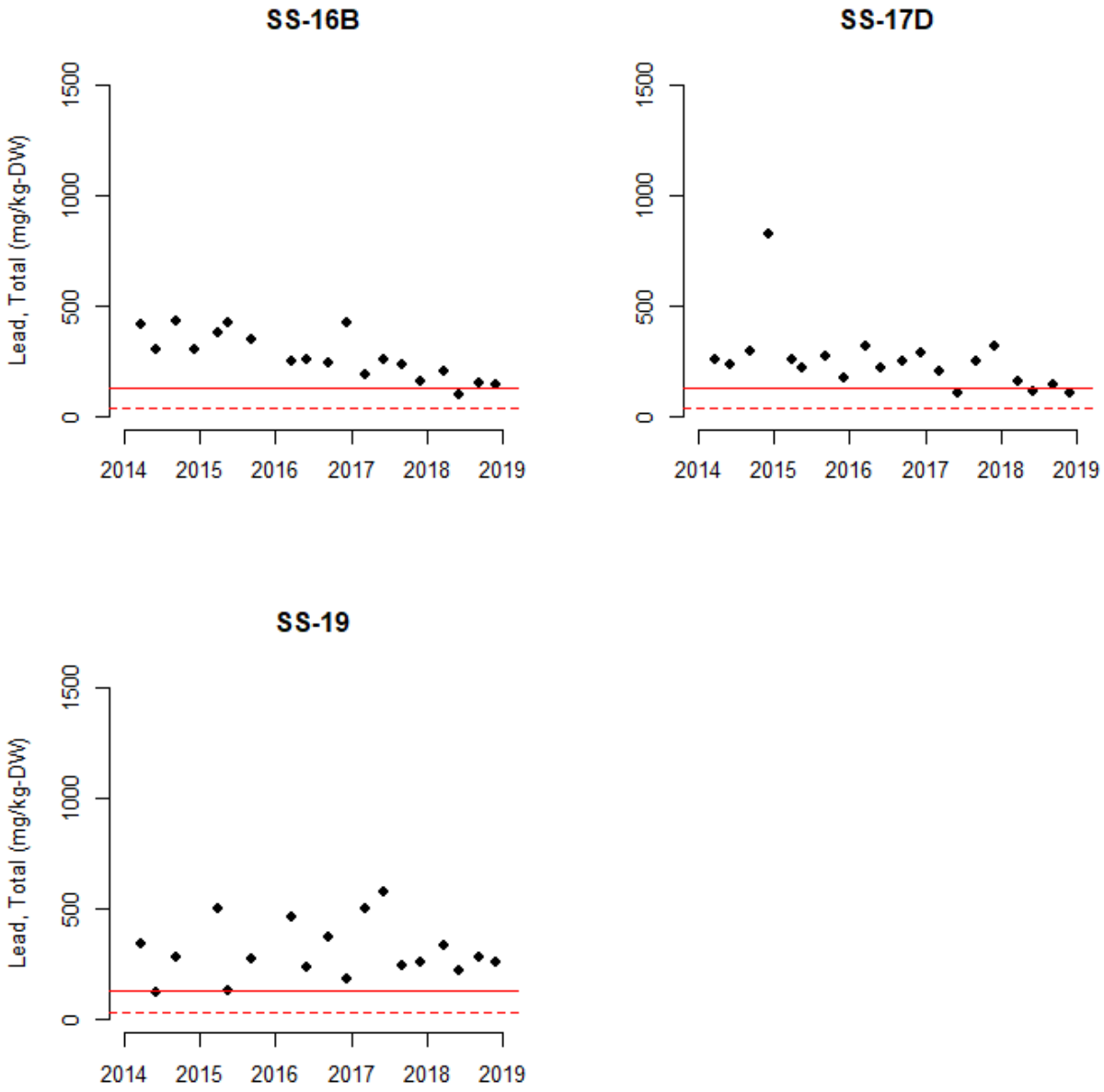

Figure 2-27. Fine fraction (<0.063 mm) total dry-weight lead concentrations (mg/kg-DW) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Solid red line is the 128 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 35.8 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.5 Mercury

Among all samples collected in 2018, sediment mercury concentrations ranged from 0.14-6.3 mg/kg-DW in the <0.063 mm size fraction, from <0.0018-0.43 mg/kg-DW in the 0.065-1 mm size fraction, and from <0.0018-0.93 mg/kg-DW in the 1-2 mm size fraction (Table 2-14). Weighted mean concentrations ranged from 0.01-0.98 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions (Table 2-15). Based on the weighted mean concentrations, exceedances of the TEC occurred in 10 samples and the PEC was exceeded in 0 samples; weighted mean concentrations were not determined for 21 samples because one or more size fractions for that sample had a concentration below the analytical reporting limit and therefore weighted mean concentrations could not be determined (Table 2-15).

Fine fraction (<0.063 mm) median mercury concentrations were similar among sites with some local deviations (Figure 2-28). Median concentrations were generally higher in Butte and upper Subarea 1 sites (Sites SS-05A, SS-06G, SS-07, and SS-08), particularly at Site SS-08, relative to other sites (Figure 2-28). Median concentrations in Silver Bow Creek below German Gulch (Site SS-15B) were similar to other sites (Figure 2-28) but the concentration at this site in Q2 was substantially higher (6.2 mg/kg-DW) than any other sample from the SSTOU in 2018 (Table 2-14). Sharp increases in median concentrations occurred between Blacktail Creek at Harrison Avenue (Site SS-01) and Silver Bow Creek at the Butte Reduction works (Site SS-05A) and between Silver Bow Creek below Butte WWTP (Site SS-07) and at Rocker (Site SS-08) (Figure 2-28).

In "background" sites (i.e., Sites SS-01 and SS-15G), fine fraction (<0.063 mm) median mercury concentrations were similar and were slightly above the TEC (Figure 2-28). Median concentrations in all SSTOU sites were above background and but only the median concentration at Rocker (Site SS-08) exceeded the PEC (Figure 2-28).

Since 2014, mercury concentrations were relatively constant and were generally at or slightly below the PEC at the Blacktail Creek background site (Site SS-01) and at or slightly below the TEC in the German Gulch background site (Site SS-15G) (Figure 2-29). None of the reference sites (Sites SS-04, SLAG-01, SS-05A, and SS-06G) demonstrated clear directional (i.e., monotonic) trends (Figure 2-29). In Subarea 1 and 2, no clear trends are apparent (Figure 2-30; Figure 2-31). Both Subarea 3 sites appear to have decreasing concentrations through time (Figure 2-32). In Subarea 4, concentrations at Silver Bow Creek at Fairmont (Site SS-16B) appear to be decreasing through time but no other sites demonstrated increasing or decreasing trends (Figure 2-33).

Table 2-14. Total mercury concentrations (mg/kg dry weight) by size fraction in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.44	0.20	0.16	0.16
SS-04	Blacktail Creek at Metro Storm Drain Confluence	ND	ND	ND	ND
SLAG-01	Silver Bow Creek in Slag Canyon	ND	ND	ND	ND
SS-05A	Silver Bow Creek above Butte Reduction Works	0.83	1.20	1.40	0.68
SS-06G	Silver Bow Creek above Butte WWTP	0.78	1.10	1.10[D]	0.90
SS-07	Silver Bow Creek below Butte WWTP	0.68	1.10	1.30	0.64
SS-08	Silver Bow Creek at Rocker	1.30	1.20	2.80	4.00
SS-10A	Silver Bow Creek above Sand Creek	0.88	0.51	0.31	0.65
SS-11C	Silver Bow Creek above Browns Gulch	0.61	0.36	0.53	0.23
SS-11D	Silver Bow Creek below Browns Gulch	0.37	0.47	0.79	0.49
SS-13	Silver Bow Creek in Reach L	0.74	0.47	0.59	0.35
SS-14	Silver Bow Creek at Miles Crossing	0.85	0.78	0.41	0.26
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.36	0.48	0.33	0.26
SS-15G	German Gulch at mouth	0.14	0.30	0.22	0.21
SS-15B	Silver Bow Creek below German Gulch	0.73	6.30[D]	0.82	0.45
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.66	0.44	1.10	0.49
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.74	0.51	0.78	0.52
SS-19	Silver Bow Creek at Frontage Road	0.99	0.31	0.90	1.00
Mid fraction (0.065-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.008[J]	0.04[J]	0.01[J]	0.01[J]
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	0.12	0.10[J]	0.09[J]	0.16
SS-06G	Silver Bow Creek above Butte WWTP	0.08[J]	0.24	0.13	0.11
SS-07	Silver Bow Creek below Butte WWTP	0.16	0.13	0.11	ND
SS-08	Silver Bow Creek at Rocker	0.40	0.21	0.28	0.23
SS-10A	Silver Bow Creek above Sand Creek	0.25	0.43	0.17	0.22
SS-11C	Silver Bow Creek above Browns Gulch	0.03[J]	0.02[J]	0.03[J]	ND
SS-11D	Silver Bow Creek below Browns Gulch	0.03[J]	0.02[J]	0.03[J]	ND
SS-13	Silver Bow Creek in Reach L	0.12	0.05[J]	0.02[J]	ND
SS-14	Silver Bow Creek at Miles Crossing	0.10[J]	0.06[J]	0.02[J]	ND
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.13	0.22	0.20	0.12

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-15G	German Gulch at mouth	0.01[J]	0.03[J]	0.01[J]	0.01[J]
SS-15B	Silver Bow Creek below German Gulch	0.14	0.20	0.09[J]	ND
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.12	0.17	0.16	ND
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.13	0.12	0.11	ND
SS-19	Silver Bow Creek at Frontage Road	0.10[J]	0.05[J]	0.06[J]	0.11
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	0.003[J]	0.01[J]	0.004[J]	0.002[J]
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	0.05[J]	0.08[J]	0.02[J]	0.15
SS-06G	Silver Bow Creek above Butte WWTP	0.03[J]	0.04[J]	0.04[J]	ND
SS-07	Silver Bow Creek below Butte WWTP	0.01[J]	0.03[J]	0.08[J]	ND
SS-08	Silver Bow Creek at Rocker	0.93[J]	0.04[J]	0.05[J]	ND
SS-10A	Silver Bow Creek above Sand Creek	0.26	0.13	0.02[J]	ND
SS-11C	Silver Bow Creek above Browns Gulch	0.02[J]	0.01[J]	0.009[J]	ND
SS-11D	Silver Bow Creek below Browns Gulch	0.003[J]	0.02[J]	0.02[J]	ND
SS-13	Silver Bow Creek in Reach L	0.03[J]	0.02[J]	0.01[J]	ND
SS-14	Silver Bow Creek at Miles Crossing	0.02[J]	0.04[J]	0.009[J]	ND
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.06[J]	0.20	0.08[J]	ND
SS-15G	German Gulch at mouth	0.005[J]	0.06[J]	0.01[J]	0.009[J]
SS-15B	Silver Bow Creek below German Gulch	0.05[J]	0.09[J]	0.01[J]	ND
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.14	0.03[J]	0.03[J]	ND
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.19	0.02[J]	0.12	ND
SS-19	Silver Bow Creek at Frontage Road	0.03[J]	0.02[J]	0.04[J]	ND

--- Not sampled.

D Result obtained from analysis of diluted sample.

J Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 40 percent.

ND Not detected at analytical reporting limit.

Table 2-15. Weighted mean (by size fraction) for total mercury concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	0.03	0.03	0.01	0.01
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	0.08	0.07	0.13	0.13
SS-06G	Silver Bow Creek above Butte WWTP	0.09	0.08	0.05	DNA
SS-07	Silver Bow Creek below Butte WWTP	0.09	0.07	0.08	DNA
SS-08	Silver Bow Creek at Rocker	0.67	0.98	0.20	DNA
SS-10A	Silver Bow Creek above Sand Creek	0.27	0.35	0.08	DNA
SS-11C	Silver Bow Creek above Browns Gulch	0.02	0.01	0.02	DNA
SS-11D	Silver Bow Creek below Browns Gulch	0.02	0.20	0.04	DNA
SS-13	Silver Bow Creek in Reach L	0.12	0.03	0.03	DNA
SS-14	Silver Bow Creek at Miles Crossing	0.32	0.10	0.03	DNA
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	0.08	0.17	0.10	DNA
SS-15G	German Gulch at mouth	0.01	0.05	0.01	0.01
SS-15B	Silver Bow Creek below German Gulch	0.07	0.70	0.04	DNA
SS-16B	Silver Bow Creek in Reach P near Fairmont	0.14	0.18	0.21	DNA
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	0.13	0.14	0.13	DNA
SS-19	Silver Bow Creek at Frontage Road	0.05	0.02	0.05	DNA

---	Not sampled in all three size fractions.
DNA	Does not apply because one or more sample fractions had ND concentration.
	Exceeds the threshold effect concentration [MacDonald et al., 2000].
	Exceeds the probable effect concentration [MacDonald et al., 2000].

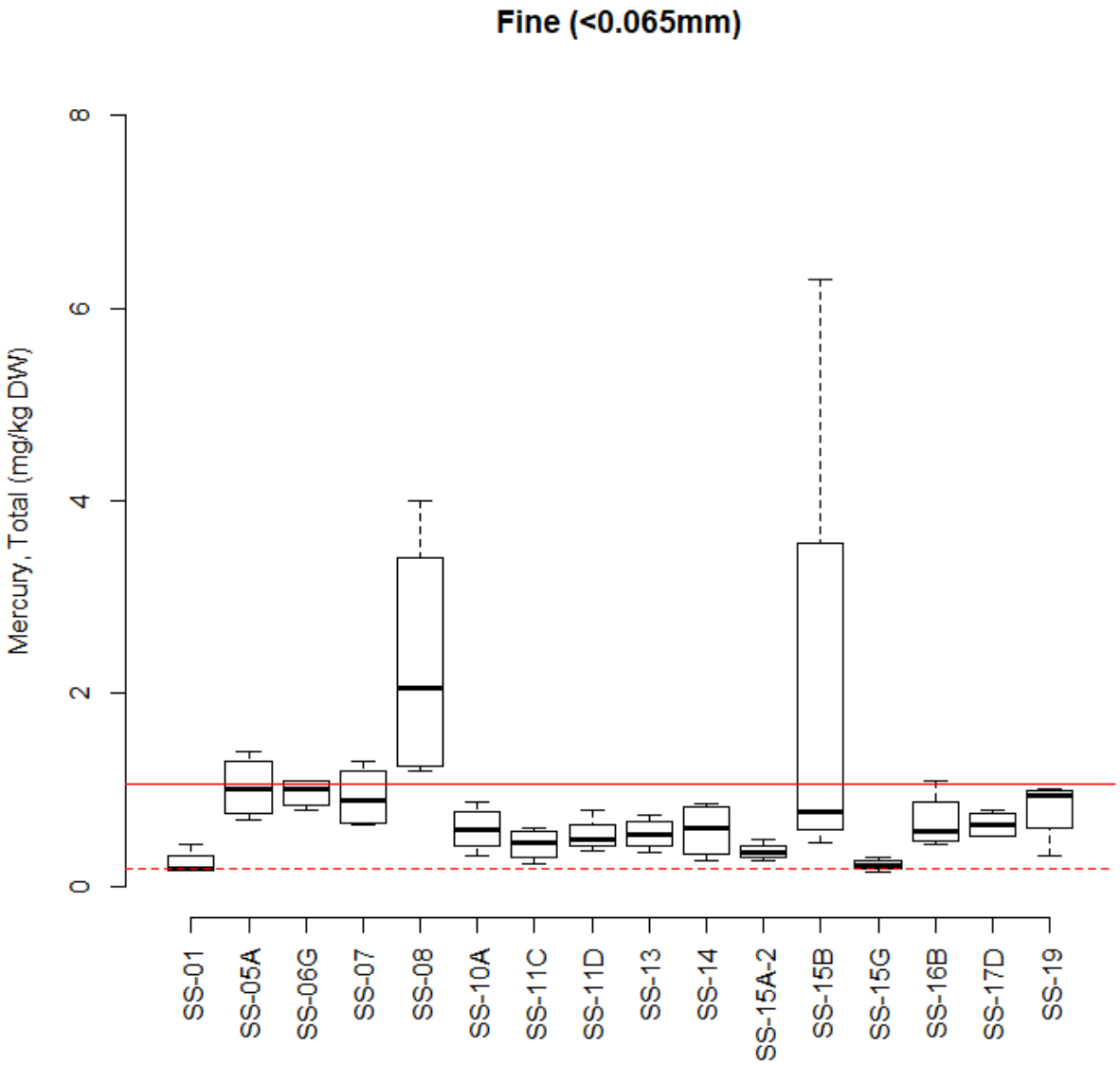

Figure 2-28. Total mercury concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2018. The upper whisker of Site SS-15A extends to 17 mg/kg. Solid red line is the 1.06 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.18 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].



Figure 2-29. Fine fraction (<0.063 mm) total dry-weight mercury concentrations (mg/kg-DW) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Blacktail Creek at Metro Storm Drain Confluence (Site SS-04), and Silver Bow Creek in Slag Canyon (SLAG-01) were not analyzed for mercury. Solid red line is the 1.06 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.18 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

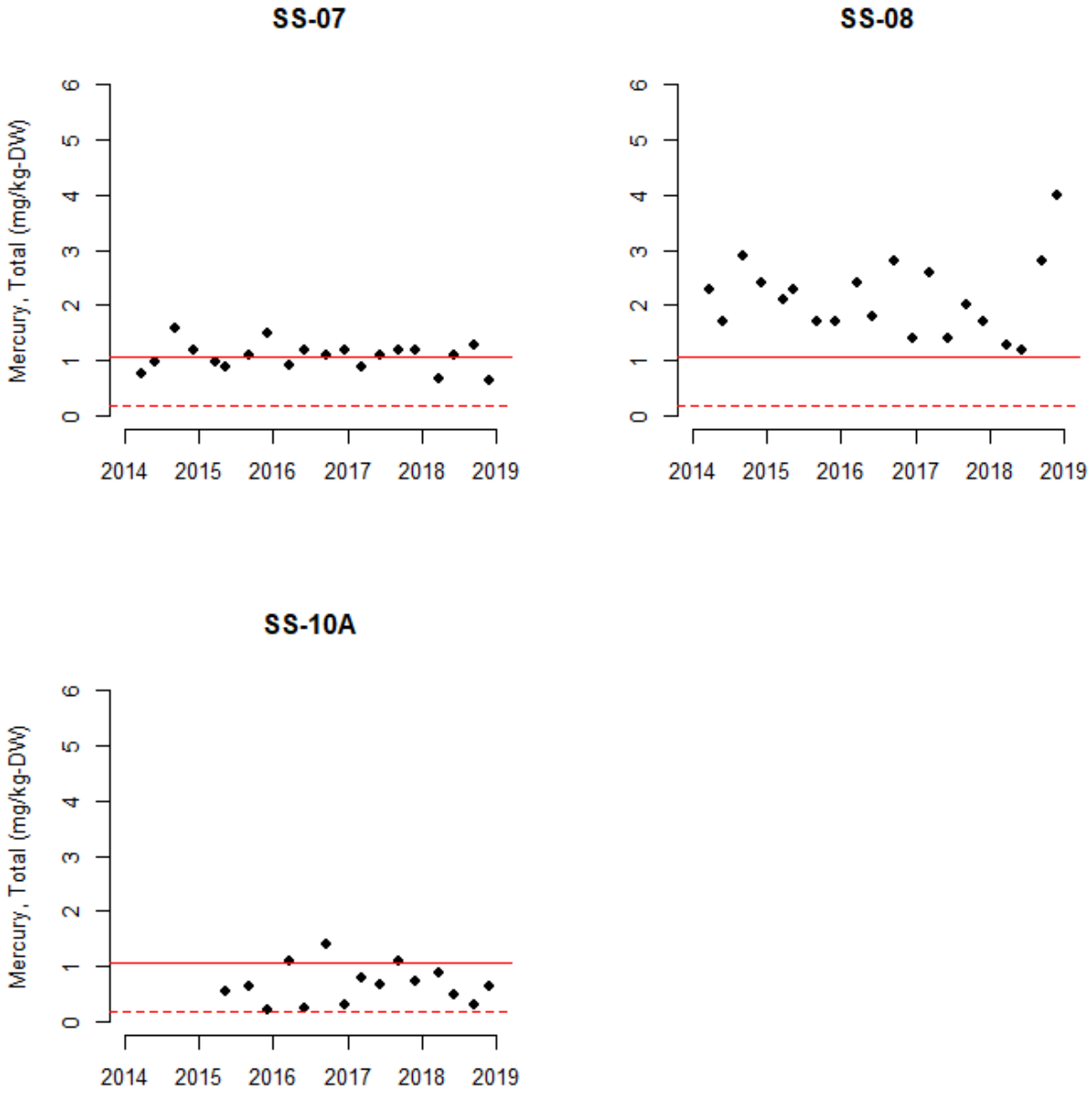

Figure 2-30. Fine fraction (<0.063 mm) total dry-weight mercury concentrations (mg/kg-DW) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Solid red line is the 1.06 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.18 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

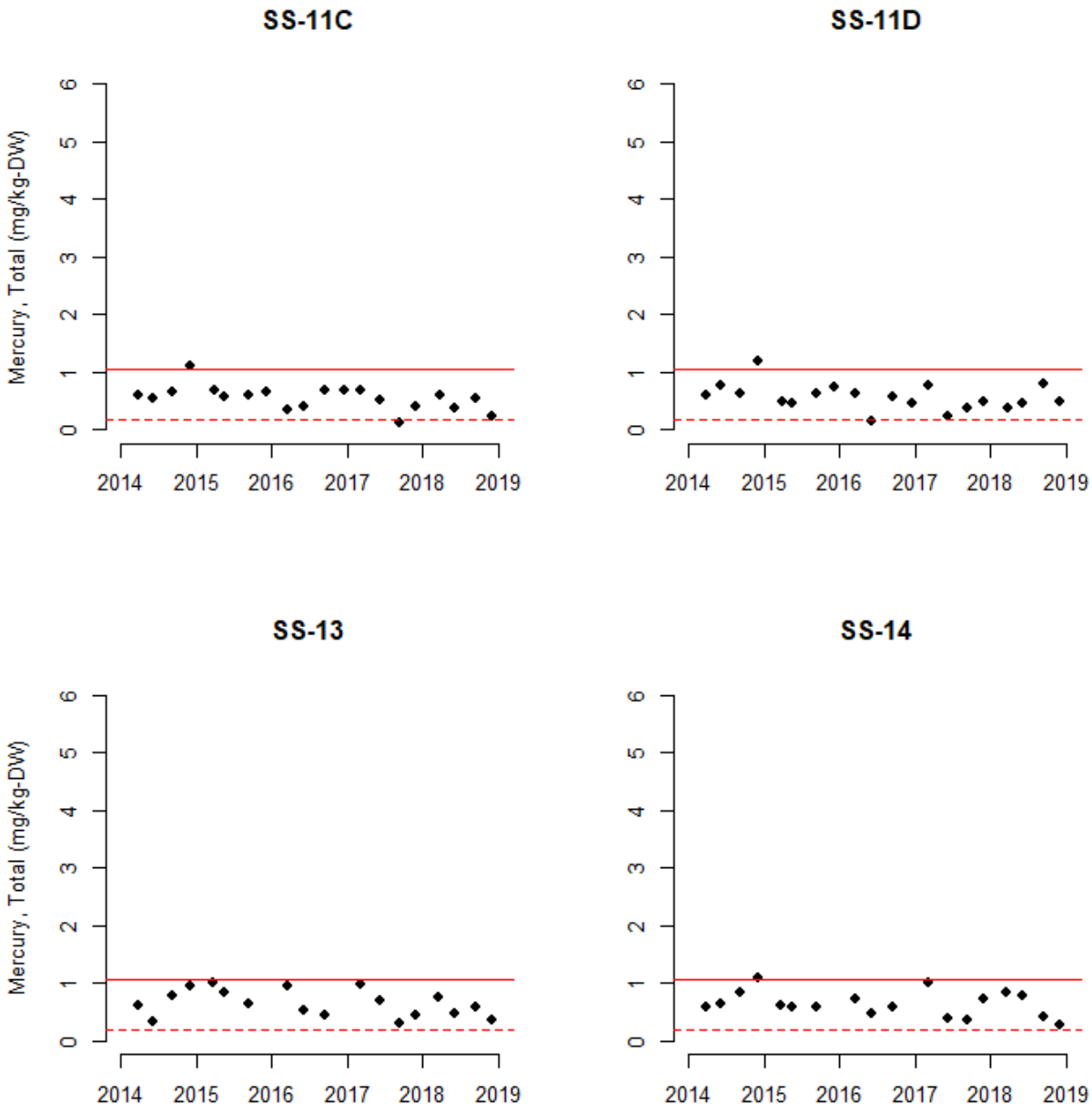

Figure 2-31. Fine fraction (<0.063 mm) total dry-weight mercury concentrations (mg/kg-DW) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Solid red line is the 1.06 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.18 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

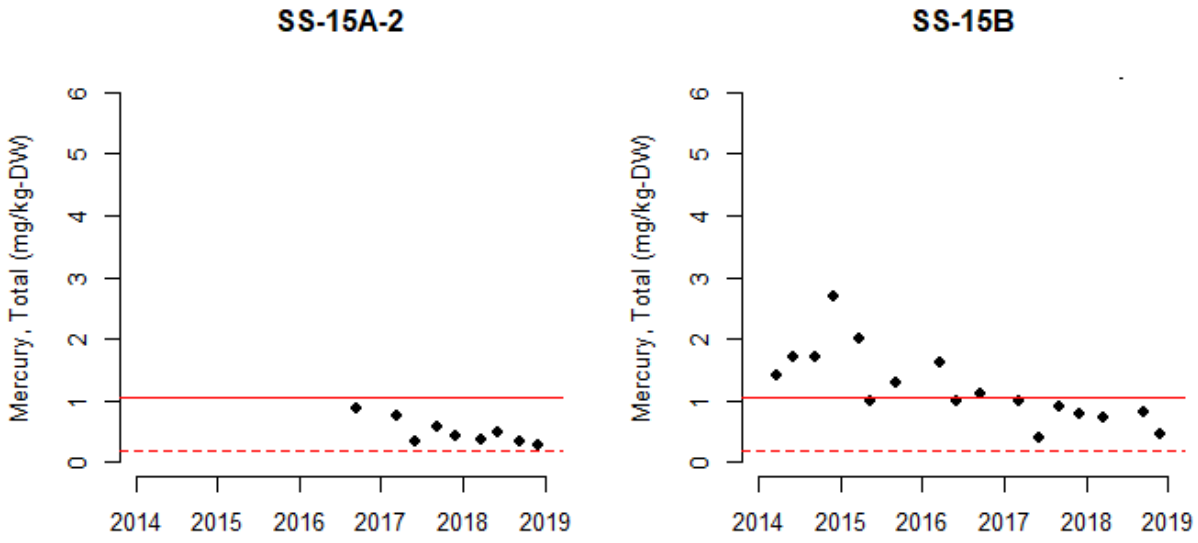

Figure 2-32. Fine fraction (<0.063 mm) total dry-weight mercury concentrations (mg/kg-DW) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above German Gulch (Alternate Site, Site SS-15A-2), Silver Bow Creek above (Site SS-15A) and below (Site SS-15B) Solid red line is the 1.06 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.18 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

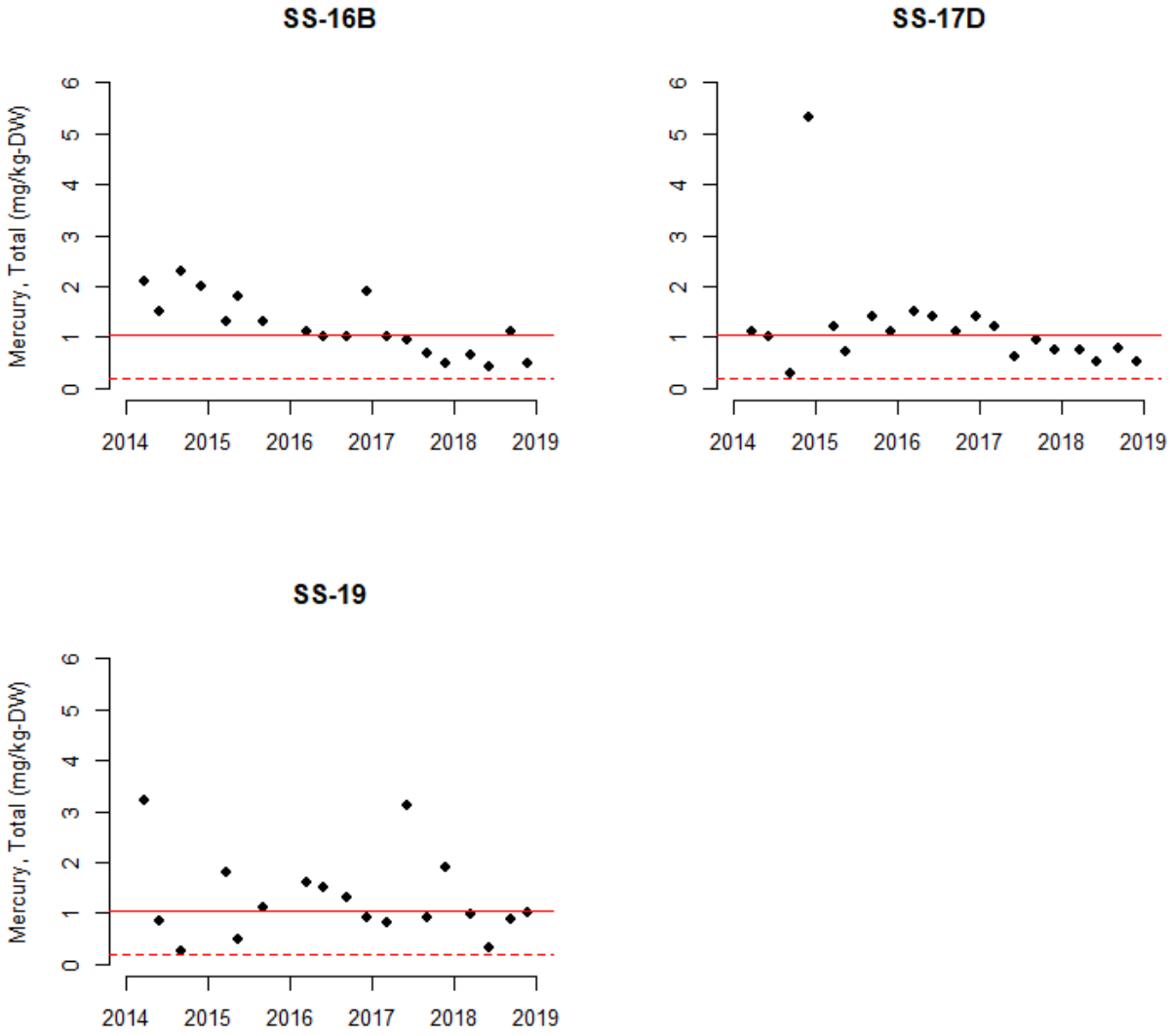

Figure 2-33. Fine fraction (<0.063 mm) total dry-weight mercury concentrations (mg/kg-DW) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19). Solid red line is the 1.06 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 0.18 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

2.4.2.6 Zinc

Among all samples collected in 2018, sediment zinc concentrations ranged from 110-4,660 mg/kg-DW in the <0.063 mm size fraction, from 35-1,720 mg/kg-DW in the 0.065-1 mm size fraction, and from 24-1,730 mg/kg-DW in the 1-2 mm size fraction (Table 2-16). Weighted mean concentrations ranged from 40-1,156 mg/kg-DW among samples with concentrations above the reporting limit in all three size fractions (Table 2-17). Based on the weighted mean concentrations, exceedances of the TEC occurred in 44 samples and the PEC was exceeded in 10 samples; weighted mean concentrations were not determined for the eight samples collected from Sites SS-04 and SLAG-01 because only the fine fraction concentrations were analyzed for those samples (Table 2-17).

Spatially, fine fraction (<0.063 mm) median zinc concentrations increased sharply from the Blacktail Creek site at Harrison Avenue (Site SS-01) to the site above the Metro Storm Drain (Site SS-04), then increased incrementally at each site downstream to Silver Bow Creek above Butte Reduction Works (Site SS-05A), then decreased steadily downstream to the Silver Bow Creek sites near Browns Gulch (Sites SS-11C and SS-11D) (Figure 2-34). Downstream from the Browns Gulch sites, median concentrations increased somewhat and were generally more variable (Figure 2-34).

In "background" sites (i.e., Sites SS-01 and SS-15G), fine fraction (<0.063 mm) median zinc concentrations were similar and were between the TEC and PEC (Figure 2-34). Median concentrations in all SSTOU sites were well above background and were generally above the PEC (Figure 2-34).

Since 2014, zinc concentrations were relatively constant and were generally at or slightly above the PEC at background sites in Blacktail Creek (Site SS-01) and German Gulch (Site SS-15G) (Figure 2-35). None of the reference sites (Sites SS-04, SLAG-01, SS-05A, and SS-06G) demonstrated clear directional (i.e., monotonic) trends although some sites appear to demonstrate slight increasing trends (Figure 2-35). In Subareas 1, 2, and 3, there were no clear increasing or decreasing trends with the possible exception of Siler Bow Creek above German Gulch which may be decreasing (Site SS-15A-2) (Figure 2-36; Figure 2-37; Figure 2-38). In Subarea 4, all sites appear to have decreasing trends, although that trend is less clear at the Frontage Road site (Site SS-19), primarily due to the high degree of variability in the results (Figure 2-39).

Table 2-16. Total zinc concentrations (mg/kg dry weight) by size fraction in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
Fine fraction (<0.063 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	441	287	365	386
SS-04	Blacktail Creek at Metro Storm Drain Confluence	1,750	1,720	3,050	2,290
SLAG-01	Silver Bow Creek in Slag Canyon	3,100	2,370	2,400	3,180
SS-05A	Silver Bow Creek above Butte Reduction Works	2,220	2,890	3,490	4,360
SS-06G	Silver Bow Creek above Butte WWTP	1,830	2,570	4,660	2,850
SS-07	Silver Bow Creek below Butte WWTP	1,600	2,090	2,370	2,940
SS-08	Silver Bow Creek at Rocker	1,780	1,470	2,350	2,380
SS-10A	Silver Bow Creek above Sand Creek	1,900	1,050	865[D]	1,710
SS-11C	Silver Bow Creek above Browns Gulch	1,230	683	1,820	750
SS-11D	Silver Bow Creek below Browns Gulch	1,180	1,170	884[D]	656
SS-13	Silver Bow Creek in Reach L	2,100	1,910	1,340	1,400
SS-14	Silver Bow Creek at Miles Crossing	2,480	1,960	1,400	1,090
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	805	928	928[D]	792
SS-15G	German Gulch at mouth	131	157	110	187
SS-15B	Silver Bow Creek below German Gulch	1,070	3,390	1,290	1,300
SS-16B	Silver Bow Creek in Reach P near Fairmont	1,400	524	1,090[D]	838
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1,310	776	1,540	722
SS-19	Silver Bow Creek at Frontage Road	1,620	1,330[D]	1,510	1,910
Mid fraction (0.065-1 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	106	92	84	122
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	1,080	1,490	1,350	1,720
SS-06G	Silver Bow Creek above Butte WWTP	419	503	568[D]	522
SS-07	Silver Bow Creek below Butte WWTP	613	542	450[D]	497
SS-08	Silver Bow Creek at Rocker	975	332	477[D]	337
SS-10A	Silver Bow Creek above Sand Creek	546	411	251[D]	565
SS-11C	Silver Bow Creek above Browns Gulch	115	75	174	178
SS-11D	Silver Bow Creek below Browns Gulch	114	128	57	73
SS-13	Silver Bow Creek in Reach L	378	112	101[J]	189
SS-14	Silver Bow Creek at Miles Crossing	342	282	106[J]	117
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	393	505	1,240[J]	316

SS-15G	German Gulch at mouth	35	42	52[J]	57
SS-15B	Silver Bow Creek below German Gulch	453	354	150[J]	202
SS-16B	Silver Bow Creek in Reach P near Fairmont	350	264	216[J]	296
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	348	307	247[J]	236
SS-19	Silver Bow Creek at Frontage Road	338	201	208[J]	281
Coarse fraction (1-2 mm)					
SS-01	Blacktail Creek at Father Sheehan Park	39	98	24	59
SS-04	Blacktail Creek at Metro Storm Drain Confluence	---	---	---	---
SLAG-01	Silver Bow Creek in Slag Canyon	---	---	---	---
SS-05A	Silver Bow Creek above Butte Reduction Works	541	1,210	1,390	1,730
SS-06G	Silver Bow Creek above Butte WWTP	291	189	280	328
SS-07	Silver Bow Creek below Butte WWTP	227	171	279[D]	324
SS-08	Silver Bow Creek at Rocker	306	147	197[D]	203
SS-10A	Silver Bow Creek above Sand Creek	300	280	176[D]	309
SS-11C	Silver Bow Creek above Browns Gulch	119	63	95	98
SS-11D	Silver Bow Creek below Browns Gulch	239	70	63	86
SS-13	Silver Bow Creek in Reach L	203[J]	108[J]	71	70
SS-14	Silver Bow Creek at Miles Crossing	160[J]	168[J]	103	112
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	212[J]	203[J]	416	433
SS-15G	German Gulch at mouth	58	99J	87	263
SS-15B	Silver Bow Creek below German Gulch	757[J]	176[J]	125	118
SS-16B	Silver Bow Creek in Reach P near Fairmont	339[J]	165[J]	166	202
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	120[J]	49[J]	90	116
SS-19	Silver Bow Creek at Frontage Road	98[J]	119[J]	102	148

---	Not sampled.
D	Result obtained from analysis of diluted sample.
J	Estimated result either because sample result was below analytical reporting limit or because the associated field sample and duplicate pair had a relative percent difference greater than 40 percent.
ND	Not detected at analytical reporting limit.

Table 2-17. Weighted mean (by size fraction) for total zinc concentrations (mg/kg dry weight) in quarterly instream sediment samples from Streamside Tailings Operable Unit monitoring stations, 2018.

Site	Site Location	Sample Quarter			
		Q1	Q2	Q3	Q4
SS-01	Blacktail Creek at Father Sheehan Park	83	73	62	75
SS-04	Blacktail Creek at Metro Storm Drain Confluence	DNA	DNA	DNA	DNA
SLAG-01	Silver Bow Creek in Slag Canyon	DNA	DNA	DNA	DNA
SS-05A	Silver Bow Creek above Butte Reduction Works	550	637	1,030	1157
SS-06G	Silver Bow Creek above Butte WWTP	423	207	296	350
SS-07	Silver Bow Creek below Butte WWTP	372	300	268	341
SS-08	Silver Bow Creek at Rocker	857	180	302	256
SS-10A	Silver Bow Creek above Sand Creek	557	455	229	518
SS-11C	Silver Bow Creek above Browns Gulch	61	47	97	118
SS-11D	Silver Bow Creek below Browns Gulch	145	70	62	87
SS-13	Silver Bow Creek in Reach L	366	88	96	256
SS-14	Silver Bow Creek at Miles Crossing	963	321	133	100
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	237	351	588	216
SS-15G	German Gulch at mouth	40	55	59	126
SS-15B	Silver Bow Creek below German Gulch	456	601	83	125
SS-16B	Silver Bow Creek in Reach P near Fairmont	356	277	262	267
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	235	305	261	183
SS-19	Silver Bow Creek at Frontage Road	130	83	171	194

DNA Does not apply because one or more sample fractions had ND concentration.

Exceeds the threshold effect concentration [MacDonald et al., 2000].

Exceeds the probable effect concentration [MacDonald et al., 2000].

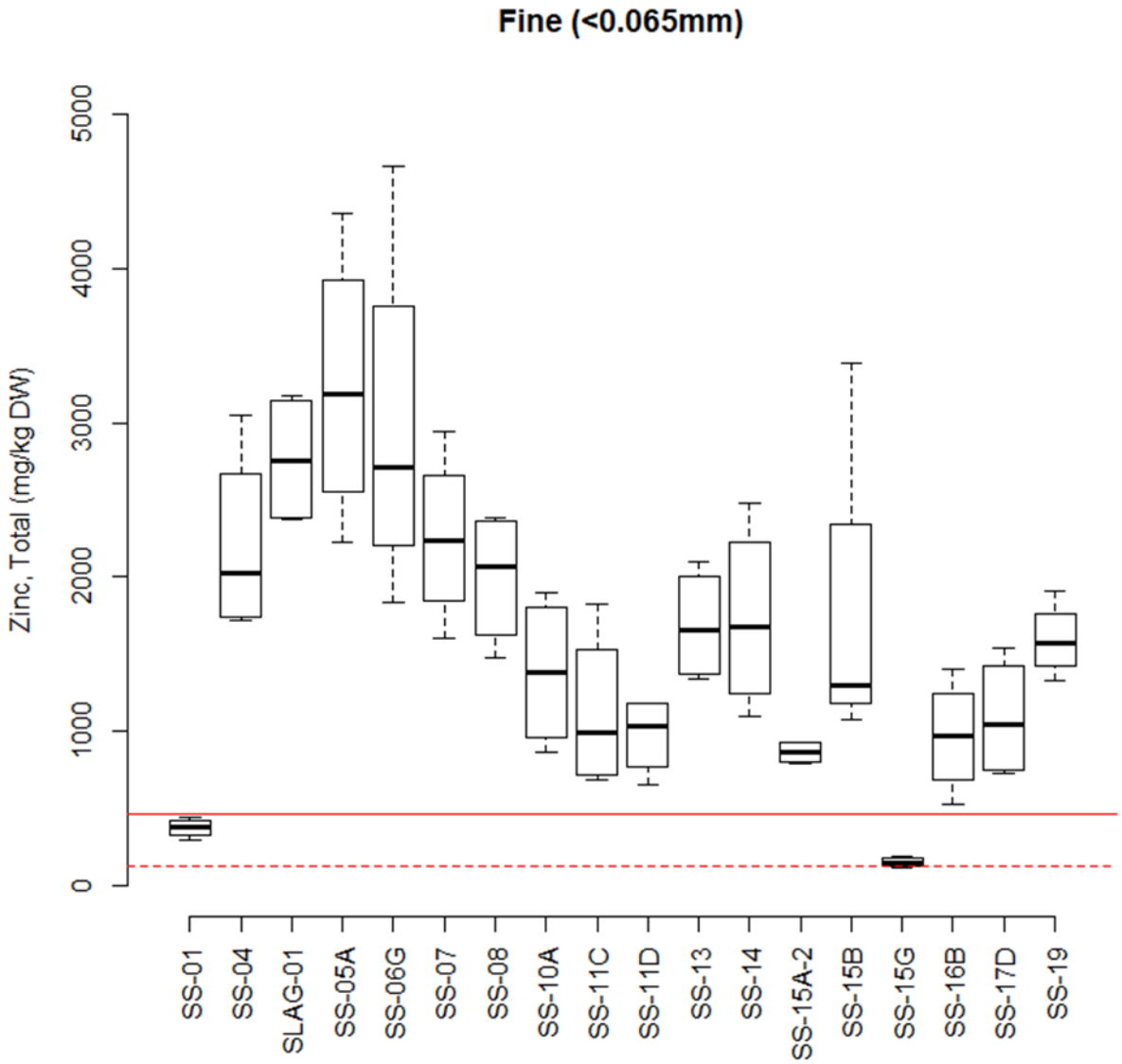

Figure 2-34. Total zinc concentrations in instream sediment (<0.063 mm) samples collected at Streamside Tailings Operable Unit monitoring stations, 2018. Solid red line is the 459 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 121 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

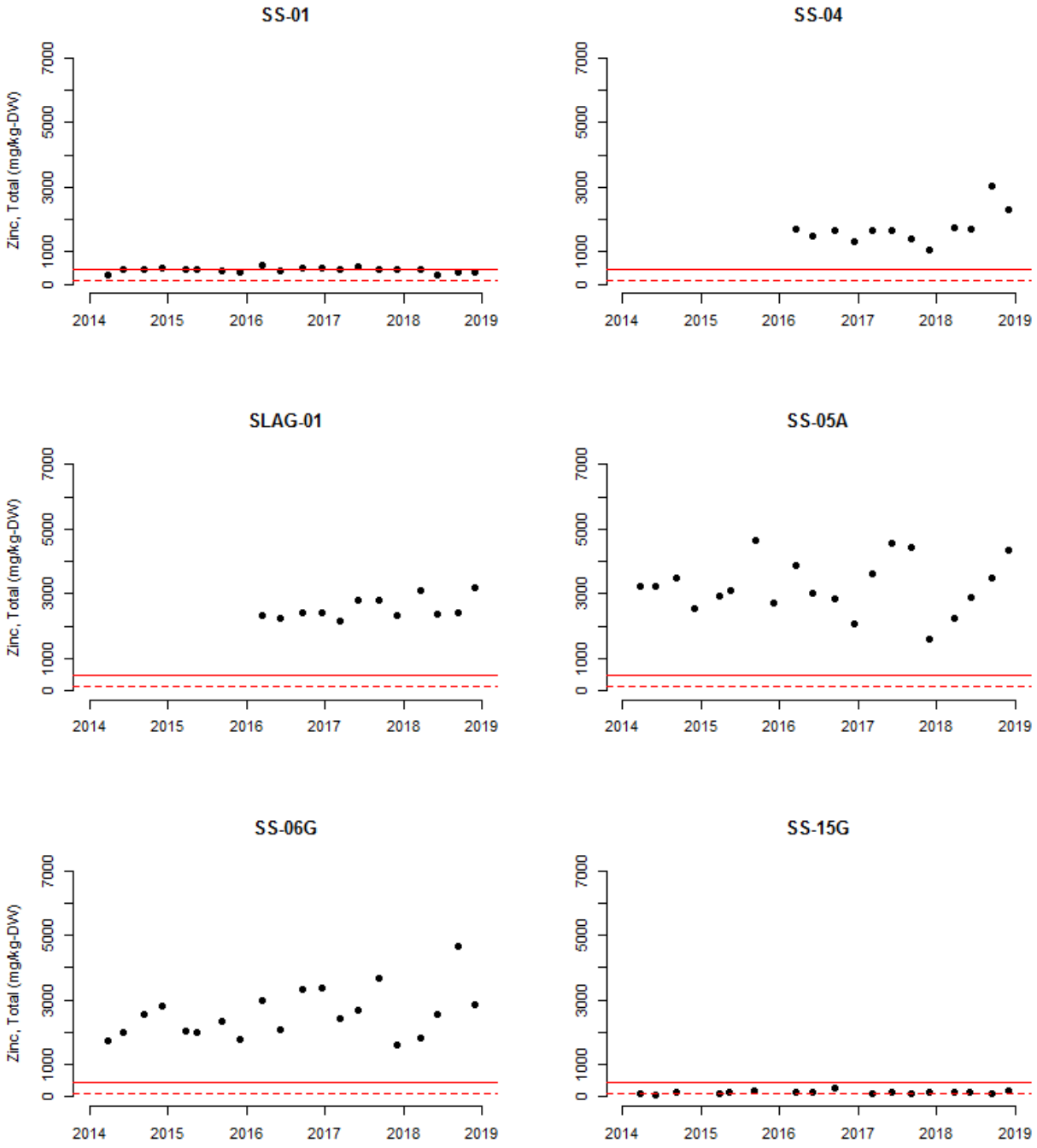

Figure 2-35. Fine fraction (<0.063 mm) total dry-weight zinc concentrations (mg/kg-DW) in Streamside Tailings Operable Unit reference sites: Blacktail Creek at Father Sheehan Park (Site SS-01), Blacktail Creek at Metro Storm Drain Confluence (Site SS-04), Silver Bow Creek in Slag Canyon (SLAG-01), Silver Bow Creek above Butte Reduction Works (Site SS-05A), Silver Bow Creek above Butte WWTP (Site SS-06G), and German Gulch near mouth (Site SS-15G). Solid red line is the 459 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 121 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

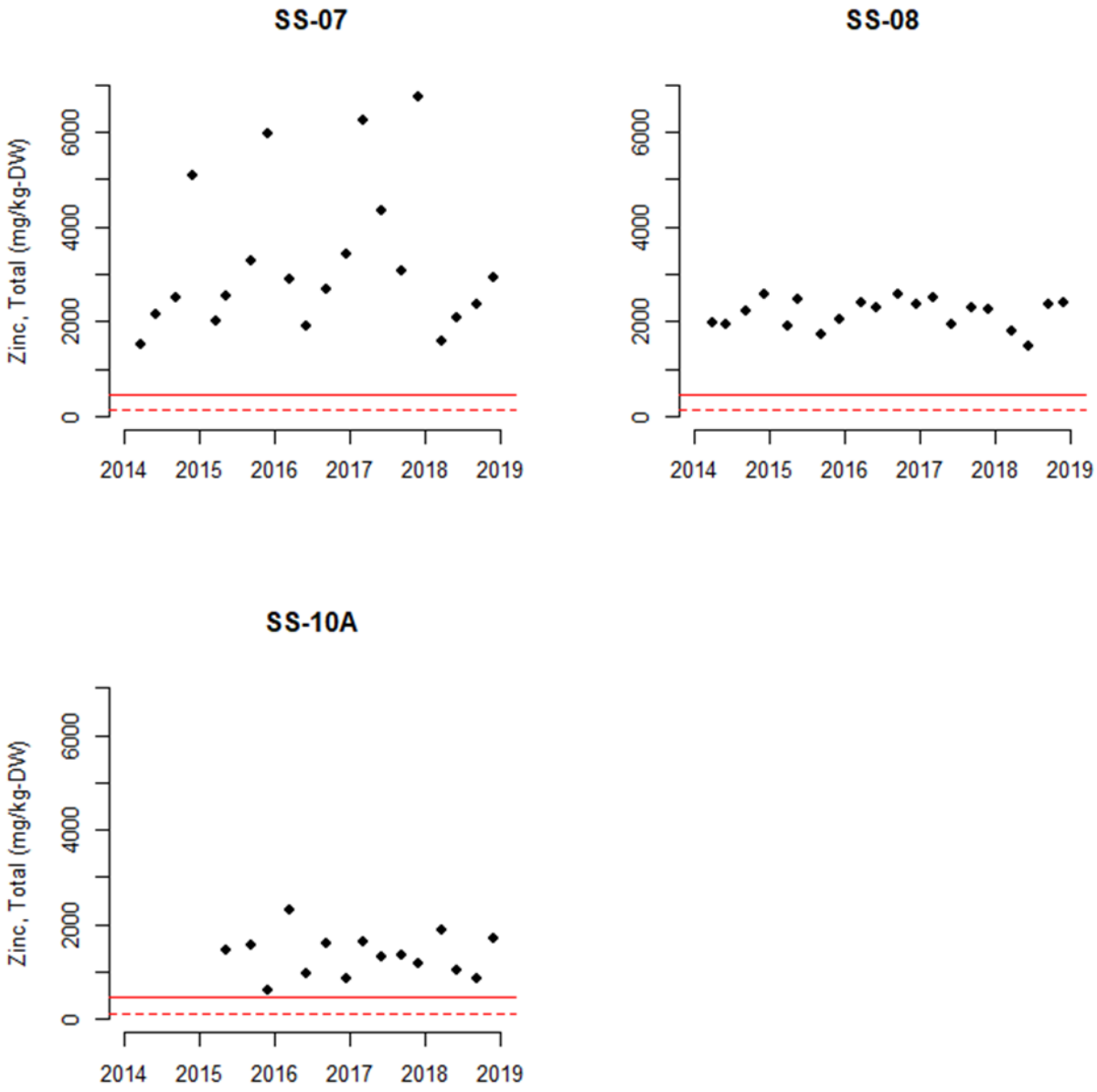

Figure 2-36. Fine fraction (<0.063 mm) total dry-weight zinc concentrations (mg/kg-DW) in Subarea 1 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek below Butte WWTP (Site SS-07), Silver Bow Creek at Rocker (Site SS-08), and Silver Bow Creek above Sand Creek (Site SS-10A). Solid red line is the 459 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 121 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

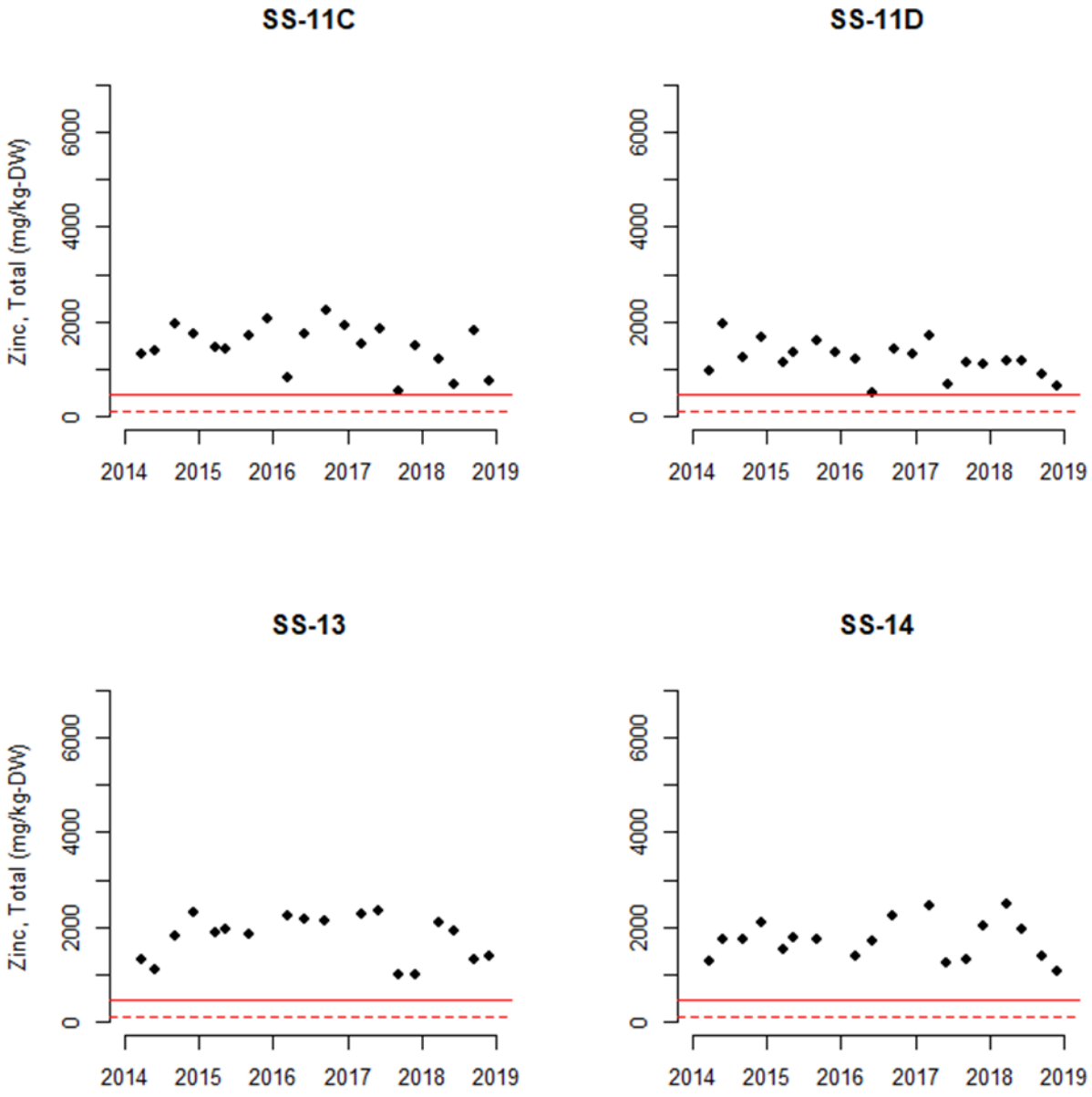

Figure 2-37. Fine fraction (<0.063 mm) total dry-weight zinc concentrations (mg/kg-DW) in Subarea 2 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above (Site SS-11C) and below (Site SS-11D) Browns Gulch, Silver Bow Creek in Reach L (Site SS-13), and Silver Bow Creek at Miles Crossing (Site SS-14). Solid red line is the 459 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 121 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

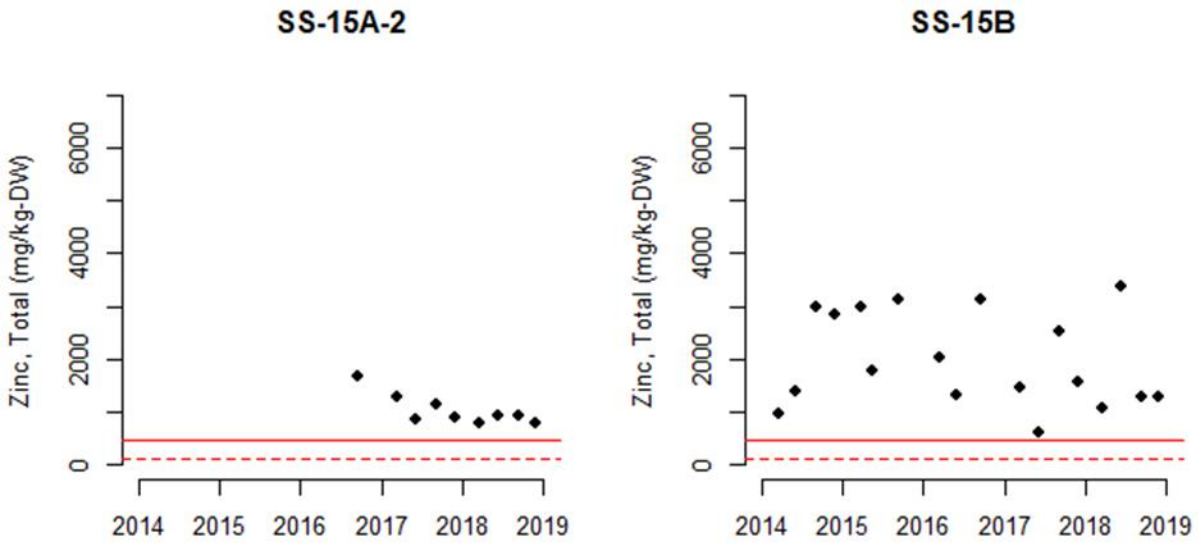

Figure 2-38. Fine fraction (<0.063 mm) total dry-weight zinc concentrations (mg/kg-DW) in Subarea 3 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek above German Gulch (Alternate Site, Site SS-15A-2), Silver Bow Creek above (Site SS-15A) and below (Site SS-15B) German Gulch. Solid red line is the 459 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 121 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

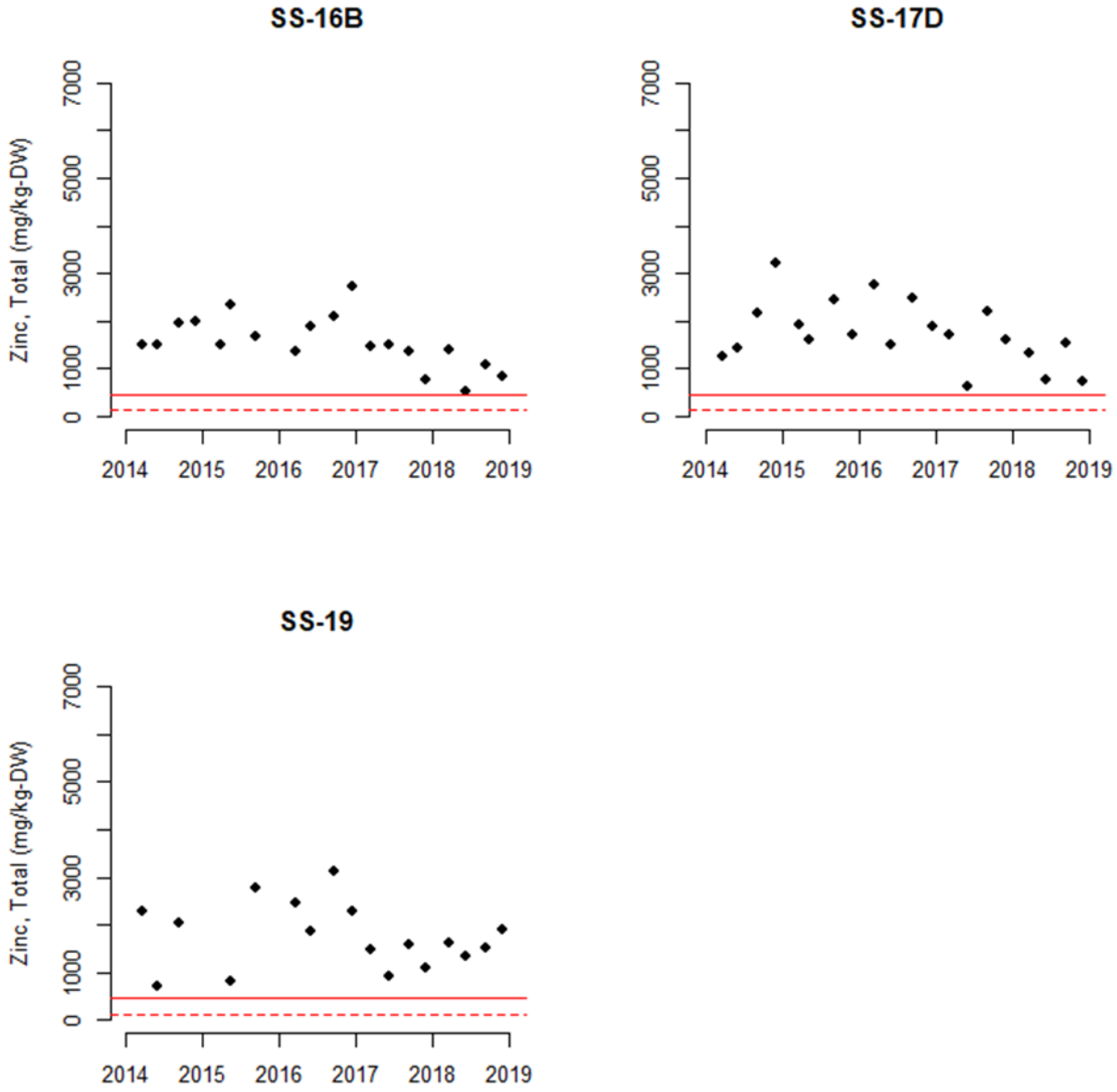

Figure 2-39. Fine fraction (<0.063 mm) total dry-weight zinc concentrations (mg/kg-DW) in Subarea 4 of the Streamside Tailings Operable Unit. Sites include: Silver Bow Creek near Fairmont (Site SS-16B), Silver Bow Creek at Opportunity (Site SS-17D), and Silver Bow Creek at Frontage Road (Site SS-19) [42]. Solid red line is the 459 mg/kg-DW "probable effect concentration" (PEC) and the dashed red line is the 121 mg/kg-DW "threshold effect concentration" (TEC) [MacDonald et al., 2000].

[42] An outlier for Site SS-19 is not shown (15,000 mg/kg during on March 26, 2015).

2.4.3 Other Metals

Summary statistics for non-COC sediment concentrations are presented by sediment size fraction in Table 2-18. Actual sample concentrations for all non-COCs are available in Appendix D. Two of the non-COCs have identified reference values [MacDonald et al., 2000]; chromium and nickel. Therefore, exceedances of the reference values for chromium and nickel are discussed further.

Chromium exceeded the TEC (43.4 mg/kg-DW) in 70 percent (45 of 64) of the samples and exceeded the PEC (111 mg/kg-DW) in 9 percent (6 of 64) of the samples in the fine sediment size fraction (<0.063 mm).

Nickel exceeded the TEC (22.7 mg/kg-DW) in 69 percent (44 of 64) of the samples and exceeded the PEC (48.6 mg/kg-DW) in 13 percent (8 of 64) of the samples in the fine sediment size fraction (<0.063 mm).

Table 2-18. Summary statistics for dry weight (DW) sediment metal concentrations (stratified by size fraction) for samples (*n* = 64) collected in the Streamside Tailings Operable Unit (SSTOU), 2018. No metals in this table are contaminants of concern in the SSTOU.

Metal	Method Detection Limit (mg/kg)		Sample Concentration (mg/kg-DW)			
	Minimum	Maximum	Minimum	Maximum	Mean[43]	Standard Deviation
Fine fraction (<0.063 mm)						
Aluminum	9	40	13,400	41,900	27,381	6,700
Antimony	0.1	3	0.3	5	1.2	0.8
Barium	0.3	4	195	805	424	127
Beryllium	0.3	1	ND	2	0.9	0.4
Boron	2	10	7	21	12	3
Chromium	0.9	2	24	145	60	29
Cobalt	0.1	6	8	38	15	6
Iron	70	200	22,900	60,000	34,345	7,840
Manganese	0.8	3	573	18,900	3,406	3,722
Molybdenum	0.2	0.6	ND	23	7.17	6.84
Nickel	0.2	1	15	91	33.02	15.52
Selenium	0.4	1	ND	4	1.2	0.8
Silver	0.3	2	ND	59	4.1	8.0
Uranium-238	0.1	0.4	0.1	15	5.7	3.7
Vanadium	0.3	3	41	156	73.00	22.92

[43] Samples with concentrations below method detection limit (MDL) were assumed to be half the MDL for calculation of means and standard deviations.

Mid fraction (0.065-1 mm)						
Aluminum	5	20	2,750	15,000	5,851	2,445
Antimony	0.07	1	0.10	3	0.61	0.44
Barium	0.2	1	33	213	115	41
Beryllium	0.2	0.5	ND	0.7	0.2	0.1
Boron	1	5	ND	10	2	2
Chromium	0.5	1	5	48	13.6	6.7
Cobalt	0.06	3	0.5	24	4.46	3.98
Iron	40	300	6,200	116,000	20,857	18,901
Manganese	0.5	4	127	2,300	683	497
Molybdenum	0.1	0.3	ND	5	0.9	1.0
Nickel	0.1	0.6	0.3	18	5.4	3.0
Selenium	0.2	0.6	ND	2.8	0.3	0.5
Silver	0.2	0.7	ND	6	0.8	1.1
Uranium-238	0.08	0.2	ND	17	2.2	2.9
Vanadium	0.2	2	12	170	47	30
Coarse fraction (1-2 mm)						
Aluminum	5	20	2,390	16,000	5,212	2,892
Antimony	0.07	2	0.09	3.5	0.61	0.62
Barium	0.2	2	30	299	114.1	68.0
Beryllium	0.2	0.6	ND	0.8	0.2	0.1
Boron	0.9	5	ND	6	1.2	1.1
Chromium	0.5	1	ND	21	7.7	4.5
Cobalt	0.06	3	0.5	13	2.76	1.92
Iron	40	100	4,140	29,100	9,145	4,480
Manganese	0.5	2	135	3,210	679	593
Molybdenum	0.1	0.3	0.1	9	0.8	1.4
Nickel	0.1	0.7	0.3	17	4.4	3.1
Selenium	0.2	0.7	ND	0.6	0.2	0.1
Silver	0.2	0.6	ND	4.8	0.5	0.8
Uranium	0.08	0.2	ND	12	1.15	1.51
Vanadium	0.2	2	10	68	16.3	7.5

ND Less than method detection limit.

2.4.4 Data Validation

Data quality objectives (DQOs) were evaluated for sampling precision. Eight paired field sample and field duplicate concentrations were compared to evaluate sampling precision. In each field sample and duplicate pair, 63 comparisons were made; comparisons were made for each pair of 21 metals and in three size fractions (<0.063 mm, 0.063–1 mm, and 1–2 mm). In total, there were 504 sample and duplicate pairs. For each of those pairs, relative percent difference (RPD) comparisons were made. In total, 35 (6.9%) had RPDs greater than the DQO specified for

sampling precision (40%) and at least one of the paired samples had a concentration more than five times higher than the reporting limit.

2.5 DISCUSSION

2.5.1 Sample Size Fraction

Sediment data collected in the SSTOU in 2018 and prior years have demonstrated the sediment size fraction is strongly related (inversely) to most metal concentrations, and these results are consistent with the findings of others [Horowitz and Ehrlick, 1987; Jain and Ram, 1997]. The reason for this relationship between metal concentrations and sediment size fraction is primarily because finer sediments have greater surface area per mass for adsorption of metals [Horowitz and Ehrlick, 1987]. Therefore, when evaluating weighted mean sample concentrations, samples with higher percentages of fine sediments will generally have higher analyte concentrations.

The sample collection method requires that samples are collected and composited from at least five depositional areas, which provides a more representative sample than a sample collected from a single depositional area [DEQ, 2012a]. The weighted mean concentrations have been compared to the reference values (TEC and PEC) to provide the most representative composite sample concentration for all sediments (less than 2 mm) at each site. However, for comparisons of sediment metal concentrations through time (or space), it is more useful to compare concentrations in the same size fractions to eliminate the confounding influence of varying size fraction proportions among disparate samples. Variance in size fractions was high between sites and between sample periods of the same site.

2.5.2 Contaminants of Concern

Prior sampling [RESPEC, 2017a; 2018a] results suggest a major source, or sources, of metal contamination exists in Butte somewhere between Blacktail Creek at Father Sheehan Park (Site SS-01) and Silver Bow Creek above the Butte Reduction Works (Site SS-05A). In 2016, additional sample sites were added between Sites SS-01 and SS-05A above the Metro Storm Drain (Site SS-04) and in Slag Canyon (SLAG-01) to identify potential sources. At each site, sediments were analyzed in only the fine (<0.063 mm) fraction and only for the COCs, excluding mercury.

Data from 2016-2018 demonstrate substantial COC loading between each of these sites (Sites SS-01, SS-04, SLAG-01, and SS-05A). In 2016 and 2017, loading appeared to occur primarily in the reach between the Metro Storm Drain and the lower end of the Slag Canyon (between Sites SS-04 and SS-05A) but in 2018 concentrations at the uppermost of those sites (Site SS-04) were elevated and therefore the precise location of the sources is less clear. We recommend continued monitoring of Sites SS-04 and SLAG-01 to provide more data for these sites and potentially,

additional monitoring sites to add finer resolution in the lower portion of Blacktail Creek and the vicinity of the Metro Storm Drain and Slag Canyon.

Downstream from Site SS-05A, arsenic, copper, lead, and zinc concentrations generally decreased sequentially at each downstream site through Subarea 1 to Sand Creek (Site SS-10A). Analyte concentrations tended to increase downstream from Sites SS-10A to SS-19 although the increases between sites were not large or consistent among COCs or size fractions, and deviations from that trend were common.

Remediation is now complete throughout Subarea 3 although Site SS-15B continued to demonstrate elevated COC concentrations. Limited tailings in the streambed and streambanks in the immediate upstream vicinity of Site SS-15B were likely responsible for the elevated concentrations. Those tailings were left to naturally attenuate because access was limited and the volume of tailings in this reach is relatively low. Samples collected immediately upstream of the remnant tailings (at Site SS-15A-2), had substantially lower COC concentrations compared to Site SS-15B. Concentrations at Site SS-15A-2 were similar to concentrations in Subarea 2 sites which ware generally quite low.

Time series data from 2014-2018 suggest monotonic trends may be occurring for some COCs at specific locations. In background and reference sites located in Silver Bow and Blacktail Creeks upstream from the SSTOU, some COC concentrations at certain sites appear to be increasing slightly through time. In Subareas 3 and 4, most sites demonstrate evidence of declining COC concentrations through time.

2.5.3 Data Validation

Some DQOs were exceeded for sampling precision. Of the 504 field sample and field duplicate pairs compared, 35 exceeded the specified DQO for sampling precision (relative percent different of the field sample and field duplicate was greater than 40 percent). All associated data will be "J" flagged in the project database as described in the quality assurance project plan [RESPEC, 2014].

3.0 GROUNDWATER

3.1 INTRODUCTION

This chapter describes groundwater-monitoring data collected in 2018 to assess the effectiveness of remedial actions implemented in the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site. Data were collected to evaluate the effects of remedial actions on groundwater quality and progress toward attainment of performance goals. Groundwater contamination is among the environmental concerns for Silver Bow Creek and may pose a threat to human health and the environment. A remediation objective in the SSTOU is to reduce loading of contaminants from floodplain soils to groundwater and surface water.

3.2 PERFORMANCE GOALS

The SSTOU Record of Decision (ROD) specifies that the final remediation standards for concentrations of contaminants of concern (COC) in groundwater are to "attain compliance with applicable Circular WQB-7 standards, federal MCLs (maximum contaminant levels) and federal nonzero maximum contaminant level goals (MCLGs) for all SSTOU groundwater." Moreover, "the groundwater levels to be attained consist of the more stringent of the MCL, any nonzero MCLG, or the WQB-7 human health standard for each parameter." While more stringent standards promulgated since the issuance of the ROD have not yet been formally adopted as performance standards for this operable unit, this monitoring report uses the more stringent of the ROD's Circular WQB-7 standards [MDHES, 1994] or current Montana Department of Environmental Quality (DEQ) Circular DEQ-7 standards [DEQ, 2017] as the goal to be attained for evaluation purposes. The most stringent of these standards for each COC is shown in Table 3-1. The DEQ [2017] human health groundwater standards for non-COC metals are summarized in Table 3-2.

Table 3-1. Comparison of the Montana groundwater standards in July 1994 (effective at the time of issuance of the Streamside Tailings Operable Unit Record of Decision) and May 2017 (effective in 2017) for each contaminant of concern.

Contaminant of Concern	Human Health Groundwater Standard (mg/L)	
	MDHES [1994]	DEQ [2017]
Arsenic	0.018	0.010
Cadmium	0.00500	0.00500
Copper	1.000	1.300
Lead	0.0150	0.0150
Mercury	0.00014	0.00200
Zinc	5.0	2.0

Gray cells identify the most restrictive standard.

Table 3-2. Montana groundwater standards for metals that are not contaminants of concern in the Streamside Tailings Operable Unit [DEQ, 2017].

Metal	Human Health Groundwater Standard (mg/L)
Aluminum	–
Antimony	0.006
Barium	1
Beryllium	0.004
Boron	–
Chromium	0.1
Cobalt	–
Iron	–
Manganese	–
Molybdenum	–
Nickel	0.1
Selenium	0.05
Silver	0.1
Uranium	0.03
Vanadium	–

3.3 METHODS

The purpose of the groundwater-monitoring program is to collect data that describe temporal and spatial variation in metal and ion concentrations for groundwater in the SSTOU. These data provide a long-term record of environmental conditions in the SSTOU. As of 2018, 17 years of SSTOU groundwater data (2002–2018) have been collected under this monitoring program. This long-term record provides data to evaluate the effects of remediation on environmental conditions

in the SSTOU over time. Improvement to groundwater quality may require long time periods (i.e., decades) following completion of remediation within the SSTOU.

Changes to the groundwater monitoring program have occurred over time and a record of these changes is provided in the program sampling and analysis plan [RESPEC, 2018b]. The program attempts to adhere to monitoring requirements specified in the SSTOU ROD (Table 3-3).

3.3.1 Monitoring Locations

In 2018, monitoring occurred in nine well clusters within the SSTOU. Major remediation was completed in all subareas prior to 2018, but minor remedial actions were in progress in Subarea 2 to remove some remnant tailings (Figure 3-1; Table 3-4). Each well cluster consisted of three wells: two monitoring wells located within the stream floodplain and one background well located outside the floodplain and adjacent to the monitoring wells. Well cluster locations were selected based on SSTOU ROD requirements (Table 3-3).

The Mine Waste Relocation Repository (MWRR) well cluster is located outside of the floodplain at a site where approximately 171,900 cubic yards of contaminated soil from Reach A of Subarea 1 were deposited [USEPA, 2011]. The MWRR site consists of five monitoring wells and one background well, which is located up-gradient from the MWRR.

Table 3-3. Minimum post-remedy monitoring requirements specified in the Record of Decision for the Streamside Tailings Operable Unit [DEQ and USEPA, 1995].

Locations/Physical	Analytical Parameters	Analytes
Near Colorado Tailings, Rocker, Silver Bow, Nissler, Ramsay Flats, Miles Crossing, Fairmont, Crackerville, Stuart, Opportunity, STARS *in situ* treatment areas and every repository location.	Metals (dissolved)	Arsenic, cadmium, copper, lead, mercury, zinc
	Common ions	Calcium, magnesium, sodium, potassium, chloride, sulfate
	Physical properties	Temperature, acidity (pH), oxidation-reduction potential (Eh), conductance, dissolved oxygen concentration

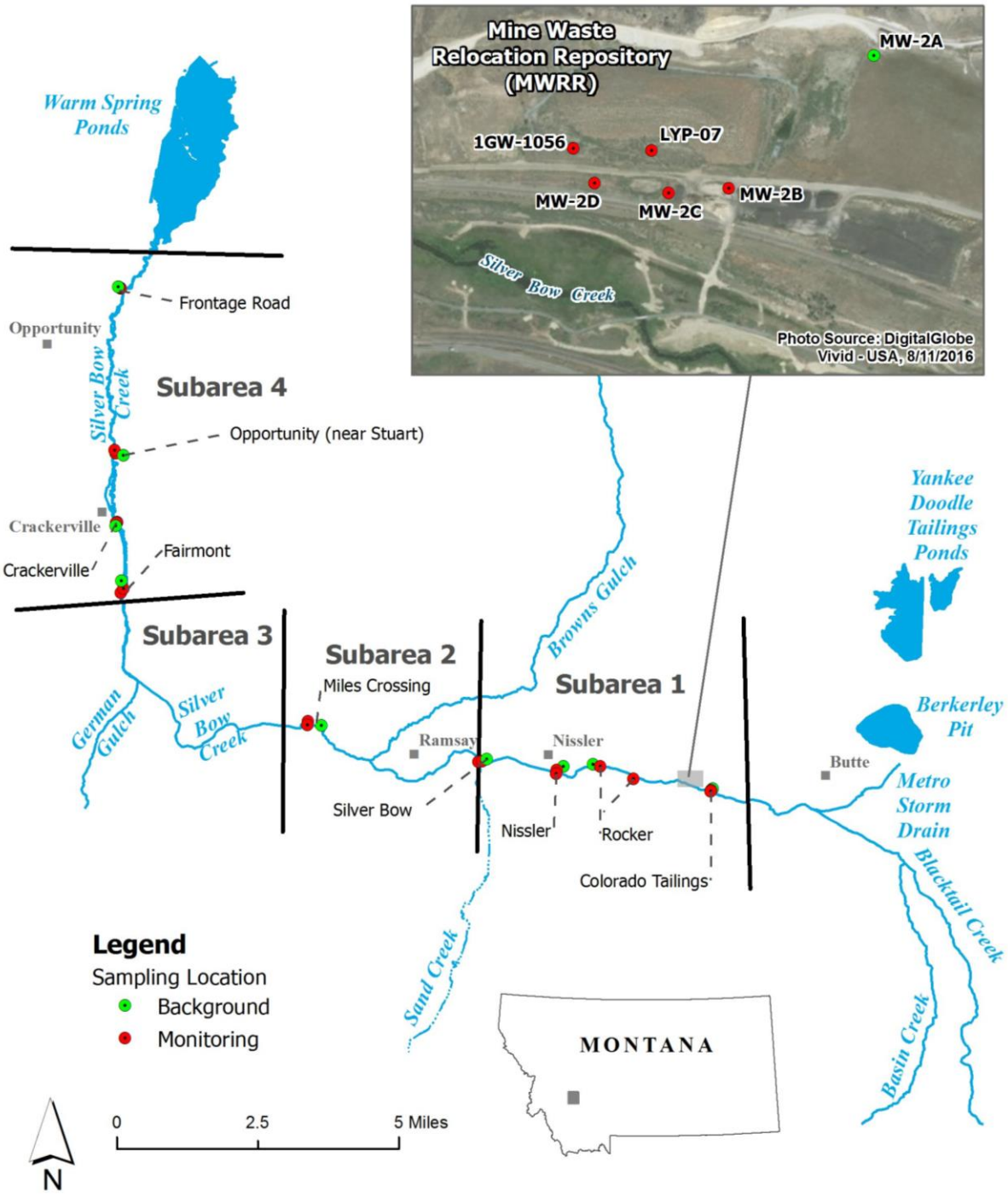

Figure 3-1. Sampling locations for groundwater monitoring in the Streamside Tailings Operable Unit.

Table 3-4. Sampling locations for groundwater monitoring in the Streamside Tailings Operable Unit.

Well Cluster	Well ID	Well Purpose	Location (GPS coordinates, NAD 83)	
			Latitude	Longitude
Colorado Tailings	MW-1010R	Background	45.99979	–112.57561
	GW-WG-NS[44]	Floodplain	45.99916	–112.57624
	GW-WG-SS[45]	Floodplain	45.99940	–112.57622
Rocker	GW-RK-BG	Background	46.00483	–112.62020
	MW-10	Floodplain	46.00447	–112.61734
	MW-01	Floodplain	46.00155	–112.60496
Nissler	GW-1003R	Background	46.00405	–112.63095
	GW-1004A	Floodplain	46.00307	–112.63343
	P-58A	Floodplain	46.00211	–112.63355
Silver Bow	P-39R	Floodplain	46.00440	–112.66235
	P-37A	Floodplain	46.00449	–112.66112
	P-114	Background	46.00508	–112.65941
Miles Crossing	GW-MC-NS	Floodplain	46.01300	–112.72600
	GW-MC-SS	Floodplain	46.01200	–112.72600
	GW-MC-BG	Background	46.01200	–112.72100
Mine Waste Relocation Repository	1GW-1056	Monitoring	46.00263	–112.58615
	LYP-07	Monitoring	46.00264	–112.58483
	MW-2A	Background	46.00386	–112.58114
	MW-2B	Monitoring	46.00223	–112.58350
	MW-2C	Monitoring	46.00215	–112.58451
	MW-2D	Monitoring	46.00223	–112.58577
Fairmont	GW-FM-ES	Floodplain	46.04400	–112.79692
	GW-FM-WS	Floodplain	46.04510	–112.79601
	GW-FM-BG	Background	46.04711	–112.79700
Crackerville	GW-CR-ES	Floodplain	46.06211	–112.79942
	GW-CR-WS	Floodplain	46.06196	–112.79980
	GW-CR-BG	Background	46.06112	–112.79994
Stuart	GW-ST-ES	Floodplain	46.07975	–112.80107
	GW-ST-WS	Floodplain	46.08053	–112.80146
	GW-ST-BG	Background	46.07939	–112.79810
Frontage Road	GW-FR-ES	Floodplain	46.12223	–112.80167
	GW-FR-WS	Floodplain	46.12250	–112.80225
	GW-FR-BG	Background	46.12263	–112.80268

[44] Well GW-WG-NS was installed in 2016 to replace Well P-06A (45.99940, –112.57622), which was discontinued.

[45] Well GW-WG-SS was installed in 2016 to replace Well GW-1052R (45.99916, –112.57622), which was discontinued.

3.3.2 Monitoring Schedule

Groundwater was monitored during low streamflow periods from October 2-4, 2018, to describe spatial variation in shallow groundwater chemistry within the SSTOU. At the MWRR well cluster monitoring also occurred during the runoff period on July 12, 2018.

3.3.3 Monitoring Parameters

Groundwater samples were analyzed for the parameters and analytes listed in Table 3-5.

Table 3-5. Sampling parameters and analytes for groundwater monitoring of the Streamside Tailings Operable Unit.

Parameter	Analytes
Concentrations of dissolved metal COCs	Arsenic, cadmium, copper, lead, mercury, zinc
Concentrations of other dissolved metals	Aluminum, antimony, barium, beryllium, boron, cobalt, chromium, iron, manganese, molybdenum, nickel, selenium, silver, uranium, vanadium
Common ion concentrations	Sulfate, total alkalinity, bicarbonate alkalinity, calcium, magnesium, sodium, potassium, chloride, hardness
Other physical properties	Water temperature, pH, specific conductivity

3.3.4 Sample Collection and Analysis

Sample collection and analysis procedures are described in the project sampling and analysis plan (SAP) [RESPEC, 2018b] and quality assurance and quality control (QA/QC) procedures are described in the program quality assurance project plan (QAPP) [RESPEC, 2014]. Sample collection methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Field sampling procedures were in accordance with DEQ [2012a] and followed "clean hands/dirty hands" procedures described in USGS [2006]. Dedicated or disposable well bailers were used in low yield wells where installing a submersible pump was impractical. Field parameters (i.e., water temperature, pH, dissolved oxygen concentration, and conductivity) were measured during each monitoring event with a field multimeter (YSI Professional Plus). Dissolved metal samples were filtered in the laboratory rather than in the field because some wells had high levels of suspended sediment, which made field filtering impractical. Samples were analyzed by Energy Laboratories (Helena, Montana). Laboratory analysis procedures for each analyte are presented in Table 3-6.

Table 3-6. Analytes, methods, and reporting limits for groundwater sampling in the Streamside Tailings Operable Unit.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[46]	Holding Time (days)	Bottle	Preservative[47]
Water Samples - Physical Properties and Inorganics					
Alkalinity, Total (as $CaCO_3$)	A 2320 B	4	14	250 mL HDPE	HNO_3 to pH <2
Alkalinity, Bicarbonate (as HCO_3)	A 2320 B	4	14		
Chloride	EPA 300.0	1	7		
Sulfate	EPA 300.0	1	7		
Hardness (as $CaCO_3$)	A 2340 B	1	180		
Water Samples - Dissolved Metals (0.45 µm filtered)					
Aluminum	EPA 200.8	0.009	180	250 mL HDPE	HNO_3 to pH <2
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.7	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.7	1			
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.7	0.02			
Lead	EPA 200.8	0.0003			
Magnesium	EPA 200.7	1			
Manganese	EPA 200.8	0.001			
Mercury	EPA 245.1	0.000005			
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.7	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002			
Sodium	EPA 200.7	1			
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			

[46] Requested reporting limits are either the required reporting limit of DEQ [2017] or the lowest reporting limit previously provided by the analytical laboratory, which is lower.

[47] All groundwater samples were preserved in the laboratory.

3.3.5 Data Analysis

3.3.5.1 Metal Contaminants of Concern

For each sample, the concentration for each metal COC in 2018 was compared to the Montana groundwater standards (Table 3-1). To provide the temporal trend for each COC concentration in each well, all COC concentrations throughout the monitoring period of record were also plotted through time. In each well cluster, COC concentrations were grouped according to the well purpose (i.e., background or monitoring), and narrative discussions are focused on comparing the conditions in the background wells to those observed in the monitoring wells in each cluster.

3.3.5.2 Other Metals and Common Ions

Concentrations of non-COC metals and common ions from 2018 were tabulated. Sample concentrations are compared to DEQ [2017] groundwater standards for those metals with standards.

3.3.6 Data Validation

Data quality objectives were established in the SSTOU monitoring project QAPP for data representativeness, comparability, completeness, sensitivity, precision, bias, and accuracy [RESPEC, 2014]. Methods for field and laboratory quality assurance and quality control procedures are also described in detail in the project QAPP [RESPEC, 2014]. A completed checklist, summary tables of field-duplicate and field-blank results, and assessments of data quality objectives are included in Appendix A.

3.4 RESULTS

3.4.1 Mine Waste Relocation Repository

3.4.1.1 Contaminants of Concern

In both July and October 2018, one MWRR monitoring well had an arsenic concentration slightly exceeding the DEQ groundwater standard: Well LYP-07 exceeded the arsenic standard in July and Well MW-2B exceeded the arsenic standard in October (Table 3-7). No other MWRR monitoring wells had samples with metal COC concentrations exceeding any DEQ groundwater standard (Table 3-7). During both quarters, the background well (Well MW-2A) in the MWRR cluster had an arsenic concentration that was at or slightly above the arsenic groundwater standard (Table 3-7), but no other COCs exceeded standards in the background well.

Table 3-7. Dissolved metal contaminant of concern concentrations (mg/L) in groundwater monitoring wells of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2018.

Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
July						
MW-2A*	0.012	0.00004	0.0005[J]	ND	ND	0.016
1GW-1056	0.007	ND	0.0003[J]	ND	ND	0.0007[J]
LYP-07	0.011	ND	0.0003[J]	ND	ND	0.0009[J]
MW-2B	0.010	ND	0.002	ND	ND	0.0014[J]
MW-2C	0.007	ND	0.0006[J]	ND	ND	0.0027[J]
MW-2D	0.007	ND	0.0006[J]	ND	ND	0.0013[J]
October						
MW-2A*	0.012	ND	0.0002[J]	ND	0.0000016[J]	0.0012[J]
1GW-1056	0.006	ND	0.0002[J]	ND	0.0000018[J]	0.0018[J]
LYP-07	0.007	ND	0.0002[J]	ND	0.0000033[J]	0.0016[J]
MW-2B	0.017	ND	0.002	ND	0.0000029[J]	0.001[J]
MW-2C	0.008	ND	0.0004[J]	ND	0.0000024[J]	0.0024[J]
MW-2D	0.008	ND	0.0004[J]	ND	0.0000017[J]	0.0026[J]

*	Background well.
ND	Not detected at method detection limit.
J	Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).
	Exceeds human health groundwater standard [DEQ, 2017].

3.4.1.1.1 Arsenic

Arsenic concentrations in the MWRR have been generally consistent at each well since monitoring began in 2006 (Figure 3-2). All monitoring wells have had arsenic concentrations that were less than, or similar to, the background well concentration throughout the period of record (Figure 3-2). Data do not indicate an increasing trend at any well, with the possible exceptions of Wells MW-2B and 1GW-1056 (Figure 3-2). Well MW-2B appears to have a slightly increasing trend through time, although concentrations have not exceeded those in the background well during any sample period (Figure 3-2). Similarly, Well 1GW-1056 may have had an increasing trend since approximately 2013, but concentrations have not exceeded those in the background well during any sample period (Figure 3-2).

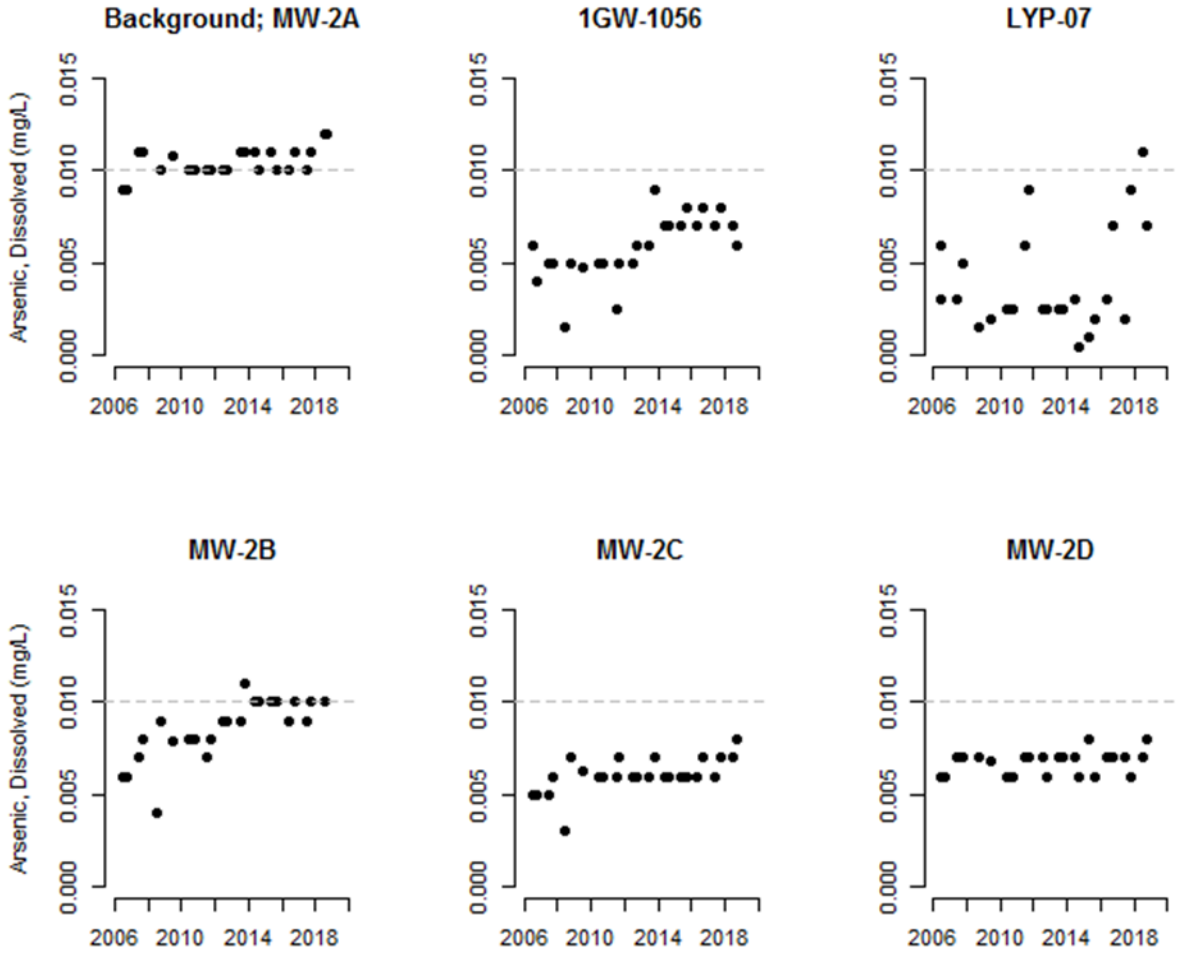

Figure 3-2. Arsenic concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017].

3.4.1.1.2 Cadmium

Based on the monitoring period of record in the MWRR, all samples had cadmium concentrations well below the most restrictive groundwater standard (Figure 3-3). There is no evidence that cadmium concentrations are increasing through time in any of the MWRR wells (Figure 3-3).

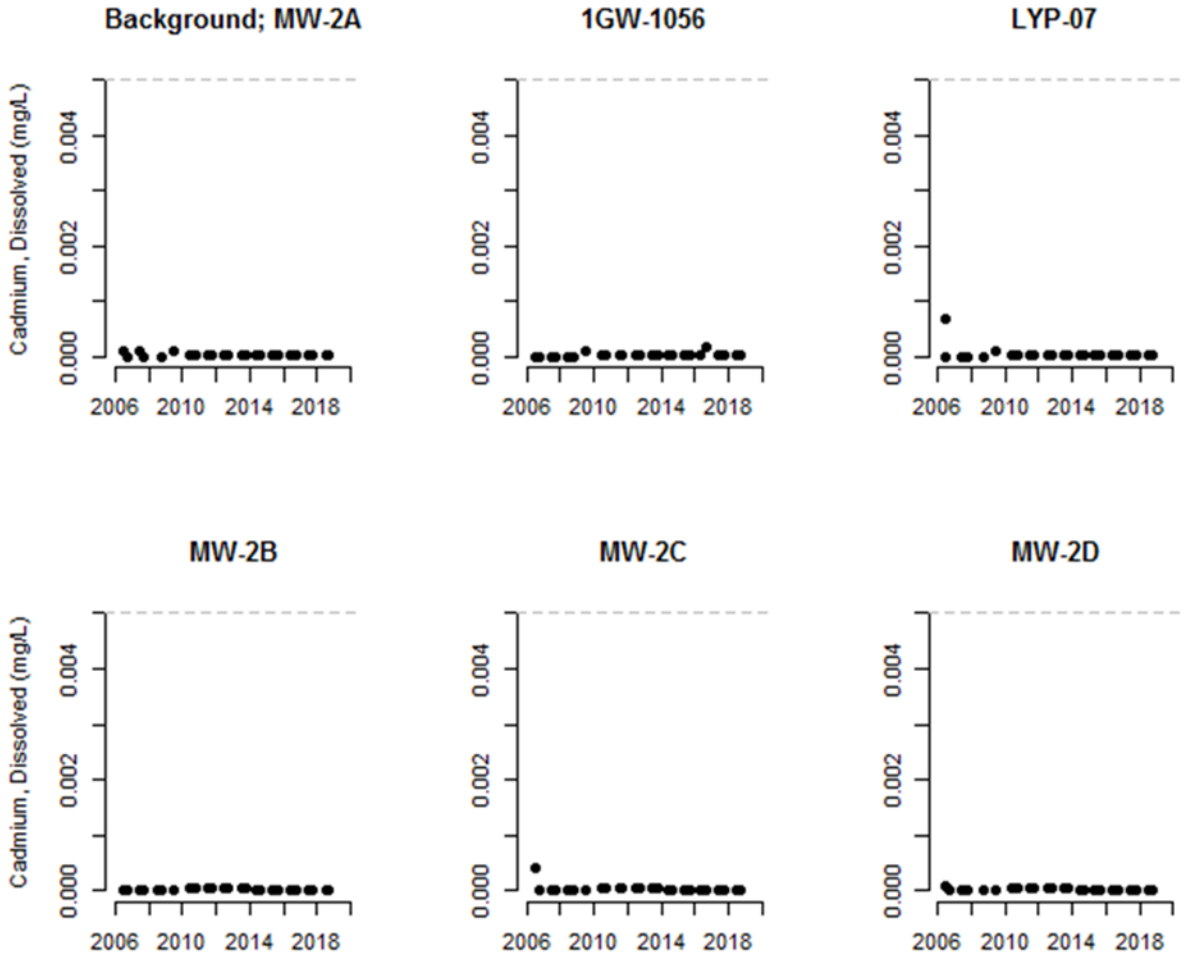

Figure 3-3. Cadmium concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017].

3.4.1.1.3 Copper

Based on the monitoring period of record in the MWRR, all samples had copper concentrations well below the most restrictive groundwater standard (Figure 3-4). There is no evidence that copper concentrations are increasing through time in any of the MWRR wells (Figure 3-4).

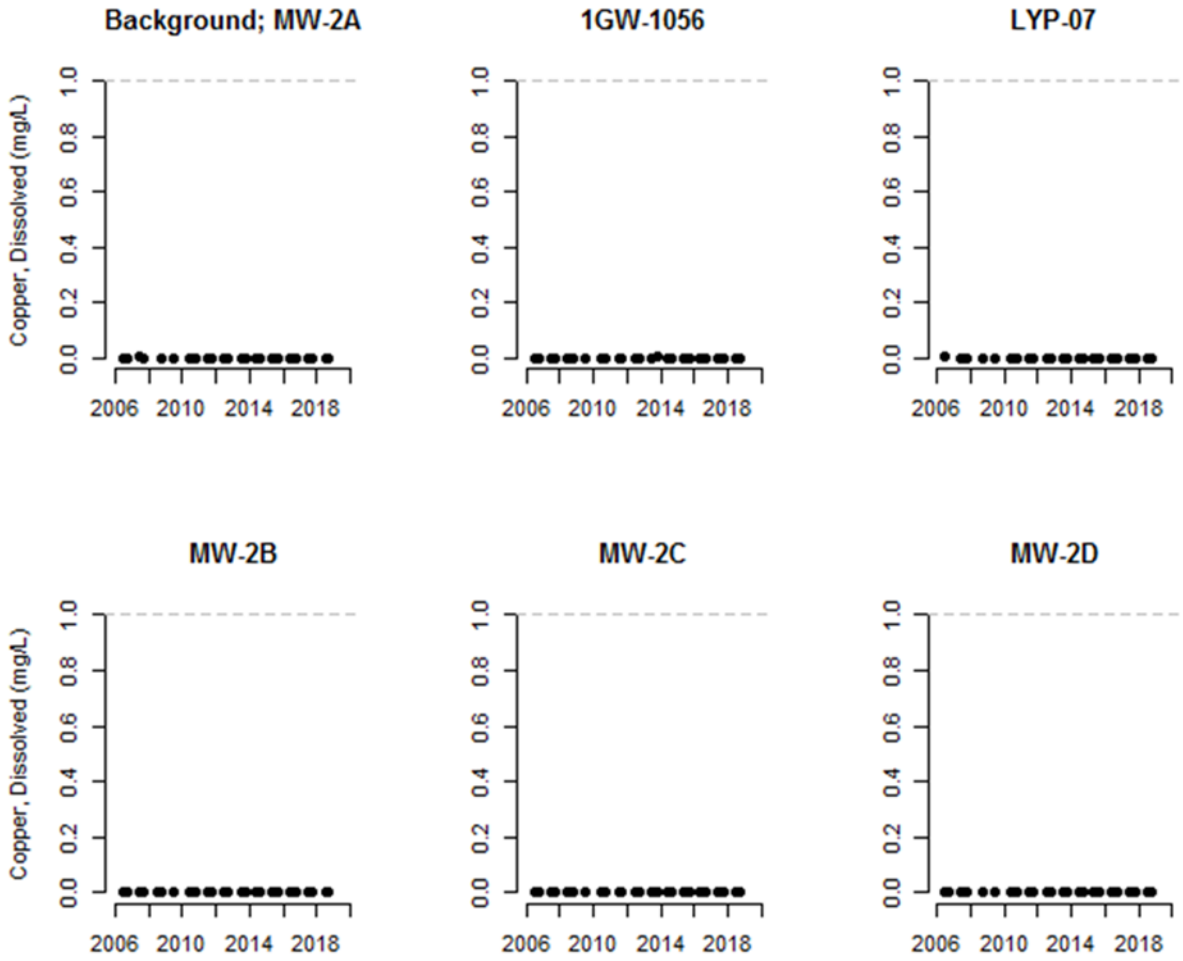

Figure 3-4. Copper concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [MDHES, 1994].

3.4.1.1.4 Lead

Based on the monitoring period of record in the MWRR, all lead concentrations were well below the most restrictive groundwater standard (Figure 3-5). There is no evidence that lead concentrations are increasing in any monitoring wells (Figure 3-5).



Figure 3-5. Lead concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017].

3.4.1.1.5 Mercury

Based on the monitoring period of record in the MWRR, all mercury concentrations were near or below the analytical reporting limit during all sample periods (Figure 3-6). There is no evidence that mercury concentrations are increasing in any monitoring wells (Figure 3-6). Nearly all sample variance in Figure 3-6 was from variance in the reporting limit.

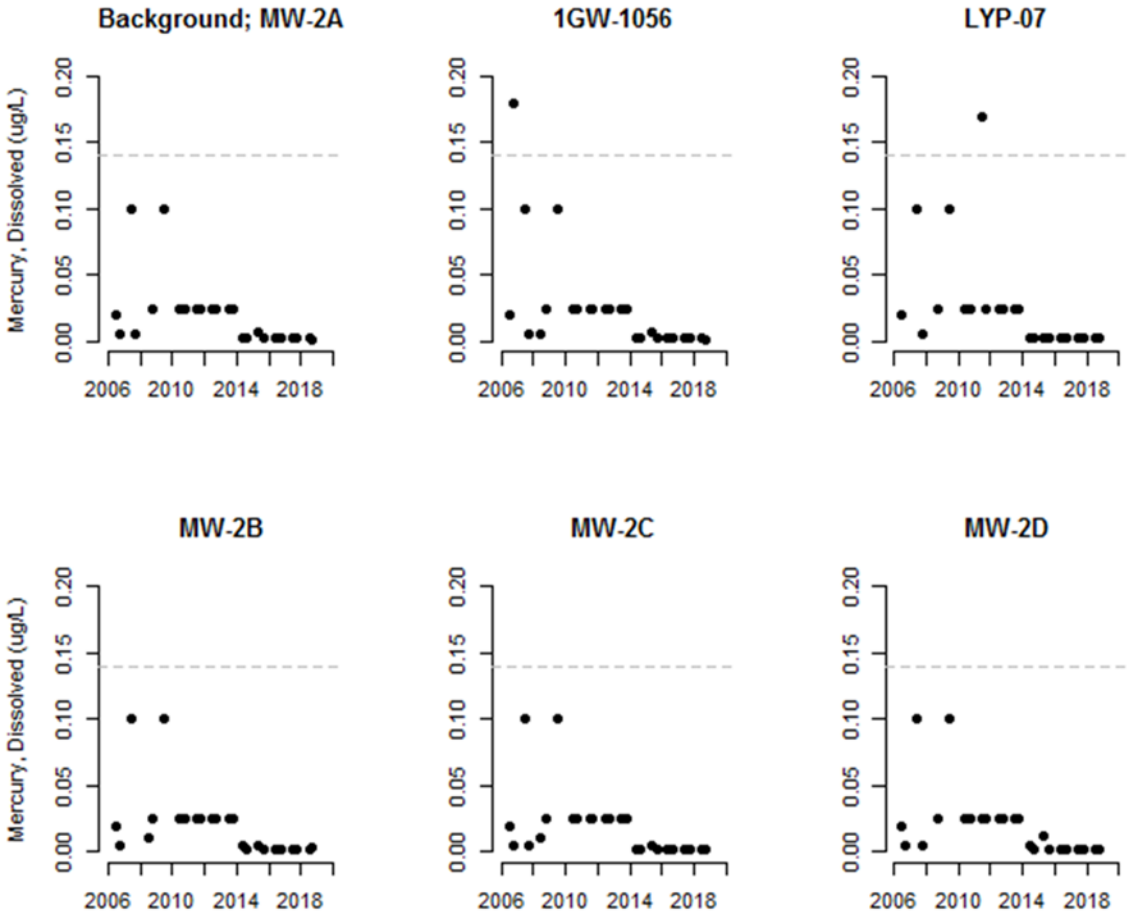

Figure 3-6. Mercury concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Units (2006–2018). Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Samples with concentrations below the analytical reporting limit are represented at half the reporting limit.

3.4.1.1.6 Zinc

Based on the monitoring period of record in the MWRR, all zinc concentrations were well below the most restrictive groundwater standard (Figure 3-7). There is no evidence that zinc concentrations are increasing in any monitoring wells (Figure 3-7).

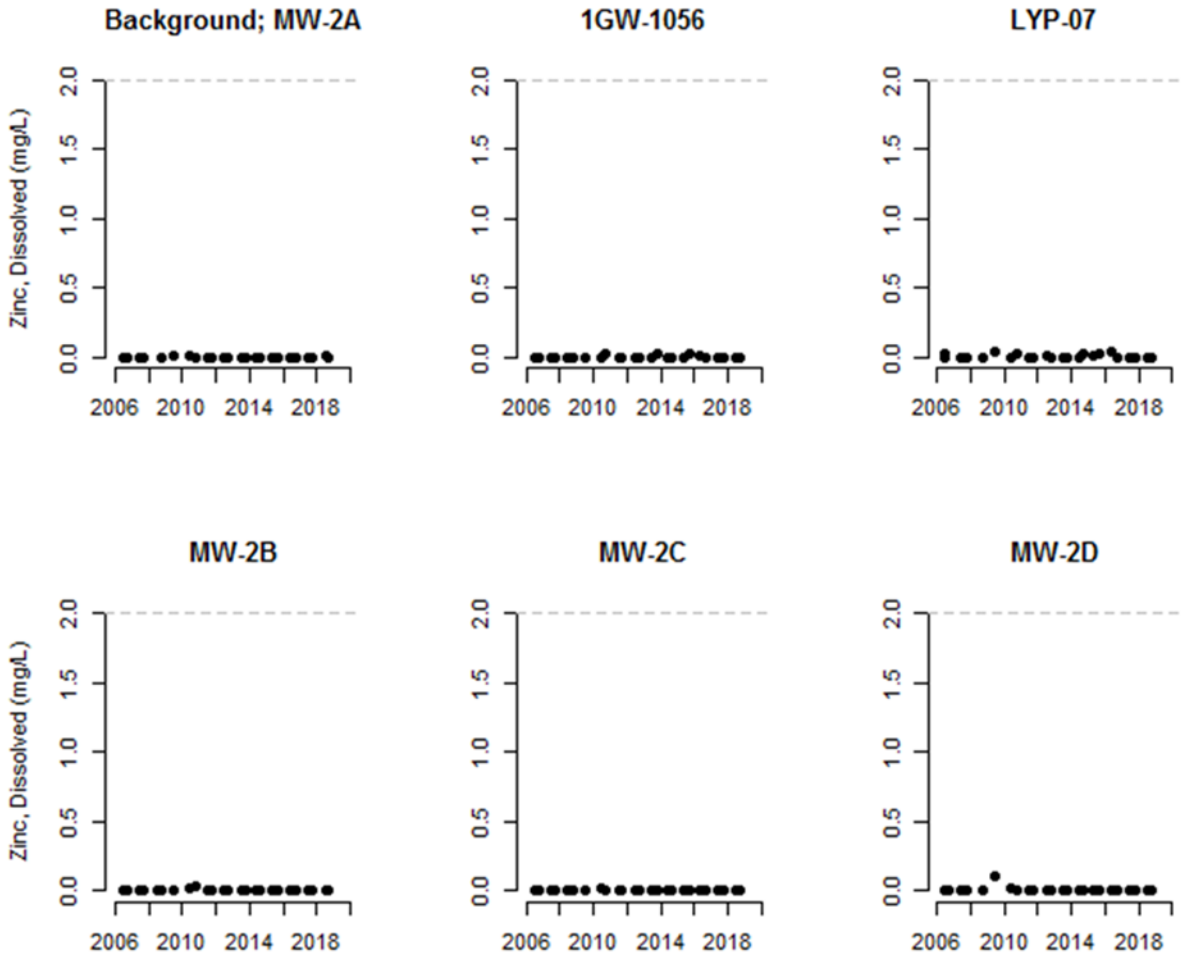

Figure 3-7. Zinc concentrations in groundwater wells in the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017].

3.4.1.2 Other Metals

In the MWRR in 2018, uranium concentrations exceeded the 0.030 mg/L DEQ [2017] standard in the background well (Well MW-2A) and in three monitoring wells (Wells 1GW-1056, LYP-07, and MW-2D) in June and October (Table 3-8). No other non-COC metals exceeded the DEQ [2017] standards in any MWRR wells in 2018.

3.4.1.3 Common Ions

Common ion concentrations in the MWRR wells for 2018 are presented in Table 3-9.

Table 3-8. Dissolved metal (non-contaminant of concern) concentrations (mg/L) in Mine Waste Relocation Repository groundwater monitoring wells in the Streamside Tailings Operable Unit, 2018.

Sites	Dissolved Metal[48]														
	Al	Sb	Ba	Be	B	Cr	Co	Fe	Mn	Mb	Ni	Se	Ag	U	V
July															
MG-2A[(b)]	ND	0.0006	0.016	ND	0.033[J]	ND	ND	0.002[J]	0.021	0.009	0.0005[J]	0.004	ND	0.0465	0.0017[J]
1GW-1056	ND	ND	0.029	ND	0.052[J]	ND	ND	ND	0.0006[J]	0.0039[J]	ND	0.005	ND	0.0304	0.0026[J]
LYP-07	ND	0.0012	0.063	ND	0.049[J]	ND	0.00032[J]	ND	0.983	0.01	0.0008[J]	0.002	ND	0.0818	0.0017[J]
MW-2B	ND	0.0002[J]	0.034	ND	0.049[J]	ND	ND	ND	ND	0.0022[J]	ND	0.003	ND	0.0071	0.0024[J]
MW-2C	ND	0.00014[J]	0.023	ND	0.076[J]	ND	ND	ND	0.0004[J]	0.0019[J]	ND	0.003	ND	0.0148	0.0025[J]
MW-2D	ND	0.00014[J]	0.041	ND	0.058[J]	ND	ND	ND	0.0006[J]	0.005	ND	0.005	ND	0.0593	0.0027[J]
October															
MW-2A[(b)]	ND	0.00036[J]	0.015	ND	0.036[J]	ND	0.00026[J]	ND	0.108	0.009	0.0006[J]	0.012	ND	0.0444	0.0029[J]
1GW-1056	ND	0.00018[J]	0.039	ND	0.053[J]	ND	0.00028[J]	ND	0.169	0.006	0.003	0.004	ND	0.0332	0.0029[J]
LYP-07	ND	0.0012	0.077	ND	0.055[J]	ND	0.001[J]	0.03	0.978	0.012	0.003	0.004	ND	0.0847	0.00075[J]
MW-2B	ND	0.0003[J]	0.051	ND	0.059[J]	ND	ND	ND	ND	0.006	ND	0.003	ND	0.0063	0.0045[J]
MW-2C	ND	0.00017[J]	0.026	ND	0.067[J]	ND	ND	ND	ND	0.0028[J]	ND	0.003	ND	0.0121	0.0029[J]
MW-2D	ND	0.00019[J]	0.049	ND	0.063[J]	ND	ND	ND	ND	0.006	ND	0.005	ND	0.0718	0.0027[J]

*	Background well.
ND	Not detected at method detection limit.
J	Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).
	Exceeds human health groundwater standard [DEQ, 2017].

[48] Metal abbreviations: Al = aluminum, Sb = antimony, Ba = barium, Be = beryllium, B = boron, Cr = chromium, Co = cobalt, Fe = iron, Mn = manganese, Mb = molybdenum, Ni = nickel, Se = selenium, Ag = silver, U = uranium, and V = vanadium.

Table 3-9. Common ion concentrations (mg/L) in Mine Waste Relocation Repository groundwater wells in the Streamside Tailings Operable Unit, 2018.

Site	Alkalinity (as $CaCO_3$)	Bicarbonate Alkalinity (as HCO_3)	Calcium	Chloride	Hardness (as $CaCO_3$)	Magnesium	Potassium	Sodium	Sulfate
July									
MW-2A*	130	160	91	5	275	12	4	28	210
1GW-1056	120	150	75	21	251	15	4	29	186
LYP-07	220	270	102	29	327	18	7	35	150
MW-2B	85	100	82	32	266	20	4	29	222
MW-2C	120	140	91	34	300	18	4	41	229
MW-2D	170	200	101	32	331	19	4	29	201
October									
MW-2A*	130	150	86	5	268	13	4	26	208
1GW-1056	140	170	84	23	279	17	4	29	190
LYP-07	260	310	100	30	322	18	7	34	124
MW-2B	78	94	99	41	361	27	6	31	310
MW-2C	110	140	104	37	355	23	4	47	299
MW-2D	180	210	107	36	360	23	4	32	233

* Background well.

3.4.2 Floodplain

3.4.2.1 Contaminants of Concern

In the Silver Bow Creek floodplain monitoring wells in 2018, five of six COCs had concentrations that exceeded the most restrictive human health groundwater standard in MDHES [1994] or DEQ [2017] in at least one well (Table 3-10). Six wells exceeded the arsenic standard and three of these were background wells (Table 3-10). Seven floodplain monitoring wells in five separate well clusters exceeded the cadmium standard, but no background wells exceeded the standard (Table 3-10). One sample from a monitoring well in the Stuart Cluster exceeded the copper standard (Table 3-10). One sample from a monitoring well in the Nissler cluster exceeded the lead standard (Table 3-10). Seven floodplain monitoring wells, in four separate well clusters, exceeded the zinc standard but no background wells exceeded the standard (Table 3-10). These results are similar to previous years.

3.4.2.1.1 Arsenic

Based on the monitoring period of record in the Silver Bow Creek floodplain, arsenic concentrations in all Subarea 1 floodplain monitoring wells were similar to the concentrations in the background well during all monitoring periods except for Well MW-01. Well MW-01 had one elevated sample in 2014 (Figure 3-8). In Subarea 2, arsenic concentrations appear to have been slightly higher in both monitoring wells of the Silver Bow Cluster, particularly in P-39R (Figure 3-9). In the Miles Crossing Cluster (Subarea 2), the background well (Well GW-MC-BG) has consistently had the highest concentrations of any well in the SSTOU monitoring network (Figure 3-8; Figure 3-9; Figure 3-10). Subarea 4 monitoring wells all had arsenic concentrations that were similar to or lower than concentrations in the background well (Figure 3-10).

Table 3-10. Dissolved metal (contaminant of concern) concentrations (mg/L) in groundwater monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, October 2018.

Cluster	Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
Colorado Tailings	MW-1010R*	0.002	ND	0.0007[J]	ND	0.0000020[J]	0.0008[J]
	GW-WG-NS	0.006	0.00009	0.0005[J]	0.00013[J]	0.0000017[J]	1.07
	GW-WG-SS	0.008	ND	0.0009[J]	ND	0.0000020[J]	0.0018[J]
Rocker	GW-RK-BG*	0.007	ND	0.0003[J]	ND	0.0000018[J]	0.0019[J]
	MW-01	0.012	0.00094	0.083	0.00003[J]	0.0000046[J]	0.159
	MW-10	0.007	0.00316	0.006	ND	0.0000015[J]	4.67
Nissler	GW-1003R*	0.012	ND	0.0001[J]	ND	0.0000012[J]	0.0013[J]
	GW-1004A	0.00014[J]	0.00364	0.369	0.0163	0.0000058	5.72
	P-58A	0.00085[J]	0.02170	0.560	ND	0.0000019[J]	10.1
Silver Bow	P-114*	0.004	0.00012	0.0004[J]	ND	0.0000085	0.0043[J]
	P-37A	0.002	0.01540	0.041	ND	0.0000055	0.951
	P-39R	0.011	0.00010	0.038	ND	0.0000029[J]	0.0056[J]
Miles Crossing	GW-MC-BG*	0.040	ND	0.0004[J]	ND	0.0000021[J]	0.0017[J]
	GW-MC-NS	0.002	0.02380	0.234	ND	0.0000114	6.88
	GW-MC-SS	0.003	0.01540	0.012	ND	0.0000052	3.03
Fairmont	GW-FM-BG*	0.001	0.00034	0.0006[J]	0.00009[J]	0.0000040[J]	0.016
	GW-FM-ES	0.002	0.00012	0.002	ND	0.0000036[J]	0.486
	GW-FM-WS	0.002	0.00003[J]	0.001	ND	0.0000023[J]	0.064
Crackerville	GW-CR-BG*	0.027	0.00004	0.003	ND	0.0000035[J]	0.0019[J]
	GW-CR-ES	0.001	0.00186	0.005	ND	0.0000032[J]	0.401
	GW-CR-WS	0.016	0.01320	0.027	0.00021[J]	0.0000068	0.218
Stuart	GW-ST-BG*	0.002	0.00192	0.001[J]	ND	0.0000041[J]	1.08
	GW-ST-ES	0.00029[J]	0.01920	1.050[D]	0.0007	0.0000028[J]	2.88
	GW-ST-WS	0.002	0.03080	0.188	ND	0.0000028[J]	4.79
Frontage Road	GW-FR-BG*	0.010	0.00005	0.004	0.0004	0.0000058	0.0020[J]
	GW-FR-ES	0.002	0.00012	0.001	ND	0.0000022[J]	0.0026[J]
	GW-FR-WS	0.010	0.00005	0.002	0.00024[J]	0.0000017[J]	0.0022[J]

*	Background well.
ND	Not detected at method detection limit.
D	Result obtained from analysis of diluted sample.
J	Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).
	Exceeds the most restrictive human health groundwater standard from MDHES [1994] or DEQ [2017].

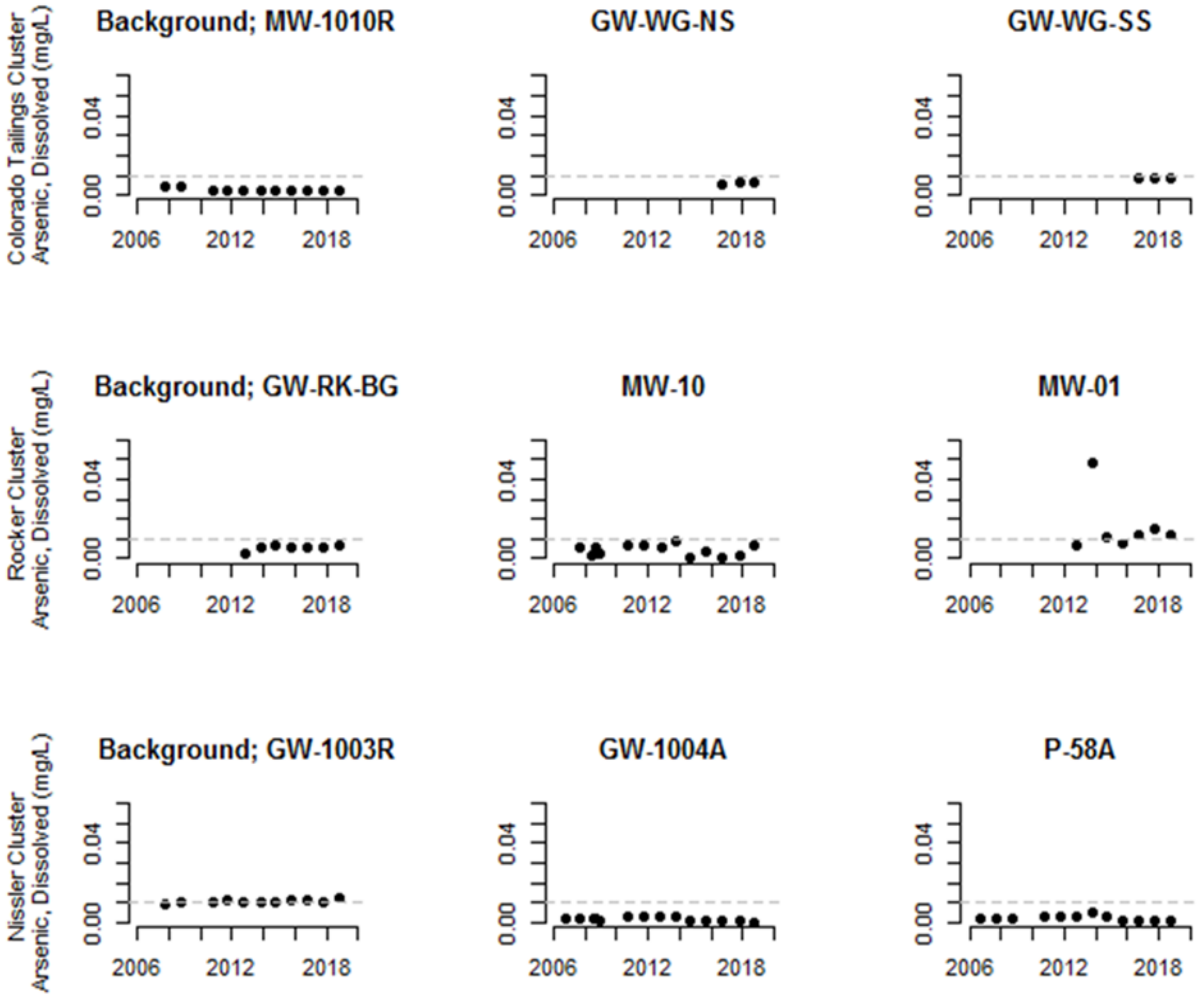

Figure 3-8. Arsenic concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

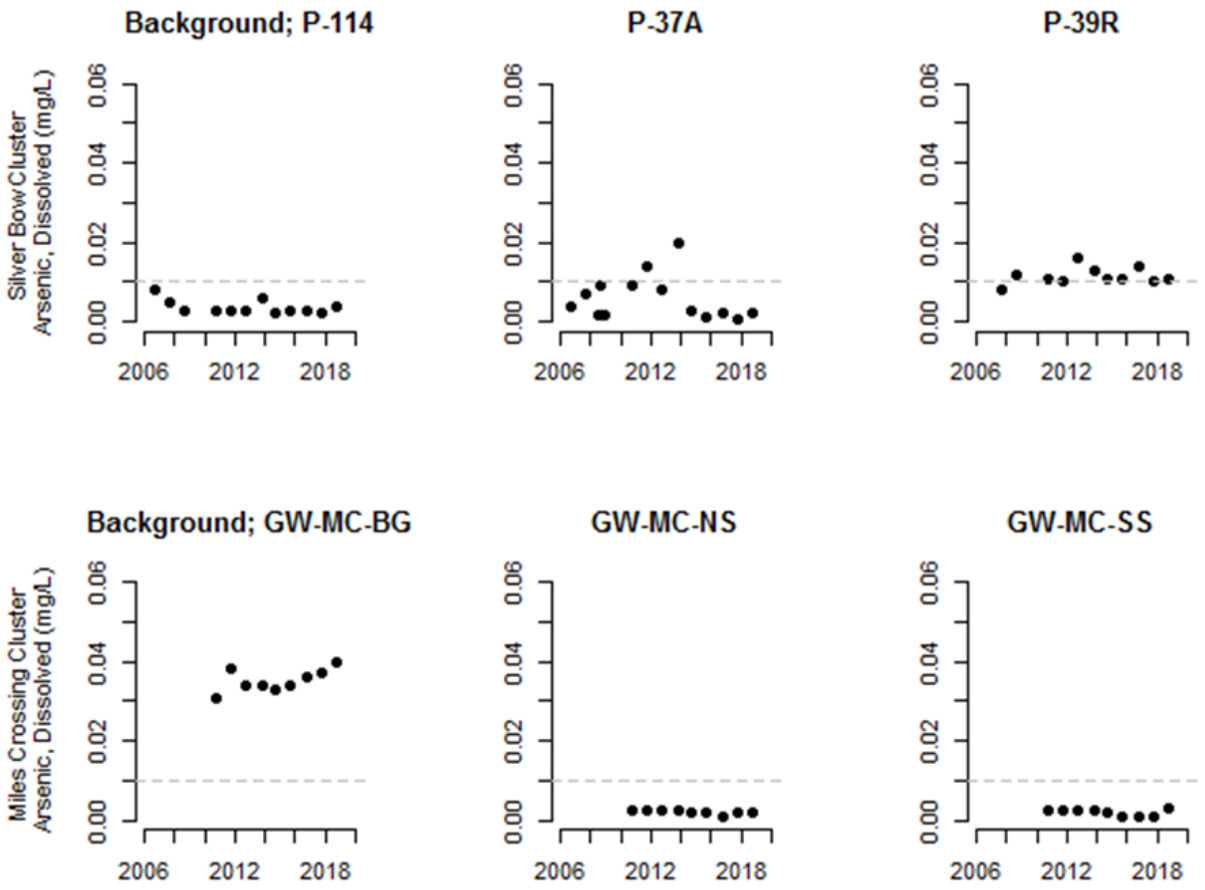

Figure 3-9. Arsenic concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit (2006-2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Silver Bow Cluster and Miles Crossing Cluster.

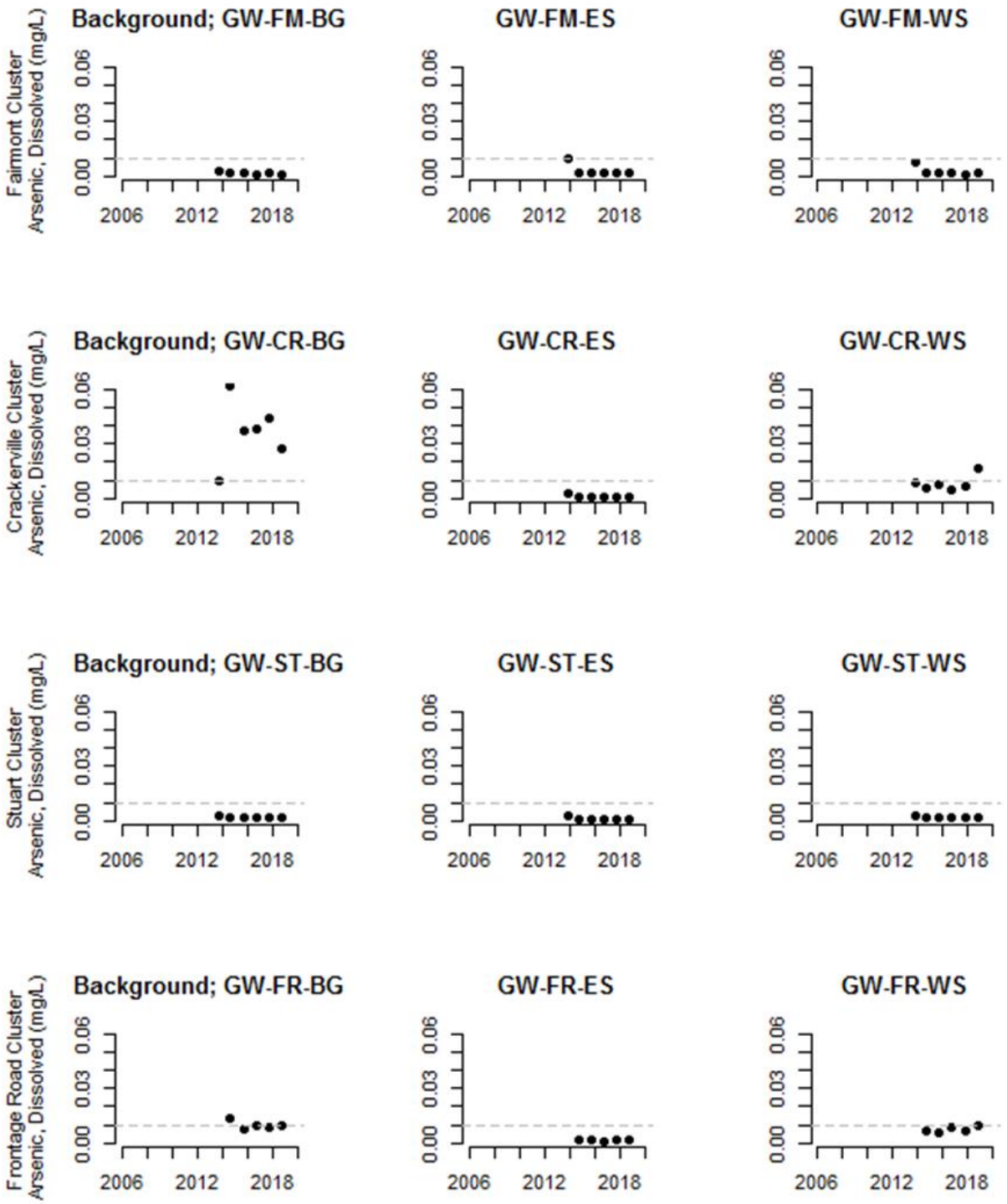

Figure 3-10. Arsenic concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit (2006-2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Fairmont Cluster, Crackerville Cluster, Stuart Cluster, and Frontage Road Cluster.

3.4.2.1.2 Cadmium

Based on the monitoring period of record in the Silver Bow Creek floodplain, cadmium concentrations in all Subarea 1 floodplain monitoring wells were similar to the concentrations in the background well except for Well P-58A (Nissler Cluster), which had higher cadmium concentrations relative to the background well in the same cluster (GW-1003R) (Figure 3-11). In Subarea 2, cadmium concentrations have been elevated relative to the background well in two monitoring wells: Well P-37A (Silver Bow Cluster) and Well GW-MC-NS (Miles Crossing Cluster) (Figure 3-12). However, all samples from Well P-37A since 2013 have been relatively low compared to the 2006–2012 period (figure 3-12). In Subarea 4, both monitoring wells located in the Stuart Cluster (Wells GW-ST-ES and GW-ST-WS) and one monitoring well located in the Crackerville Cluster (Well GW-CR-ES) have had elevated concentrations relative to the background wells (Figure 3-13).

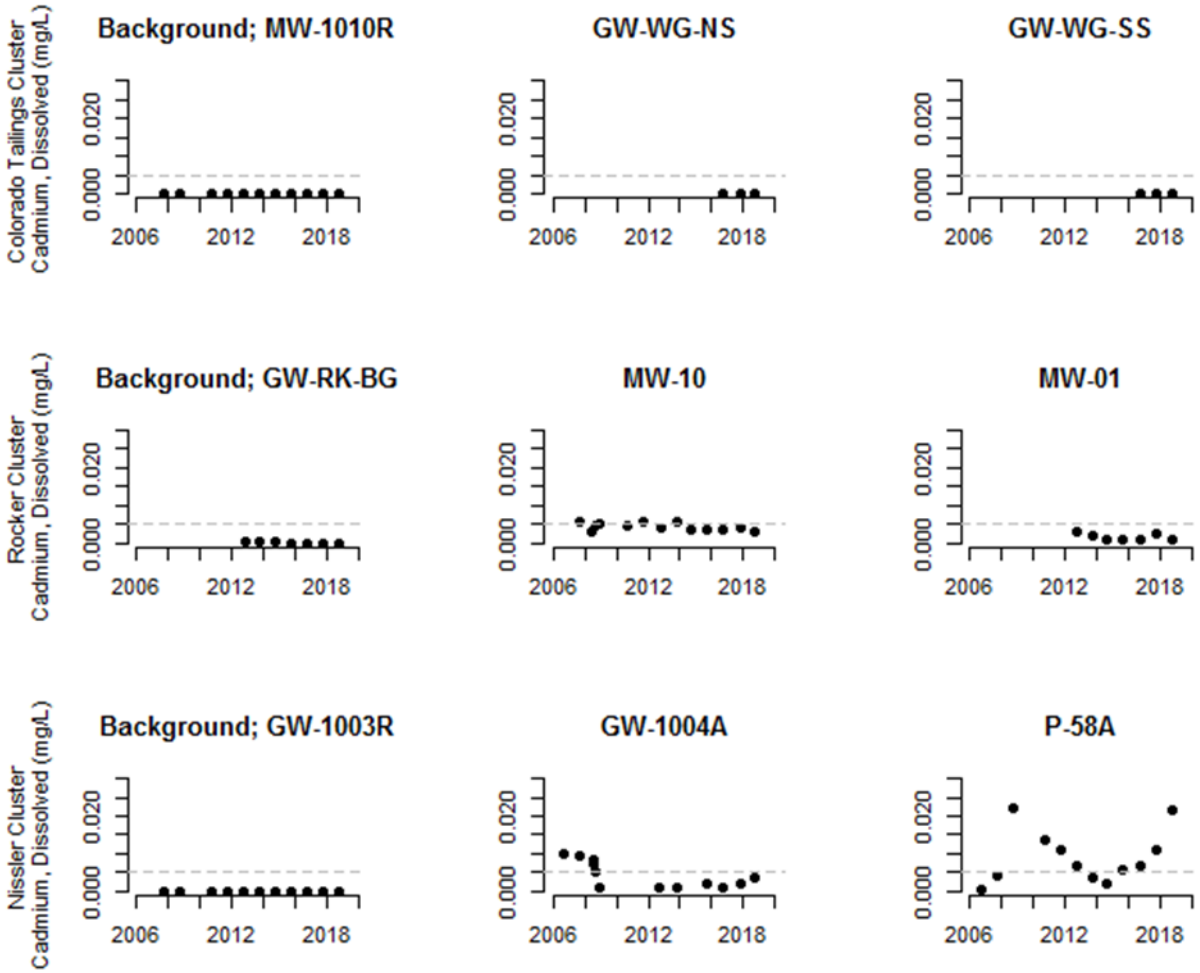

Figure 3-11. Cadmium concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

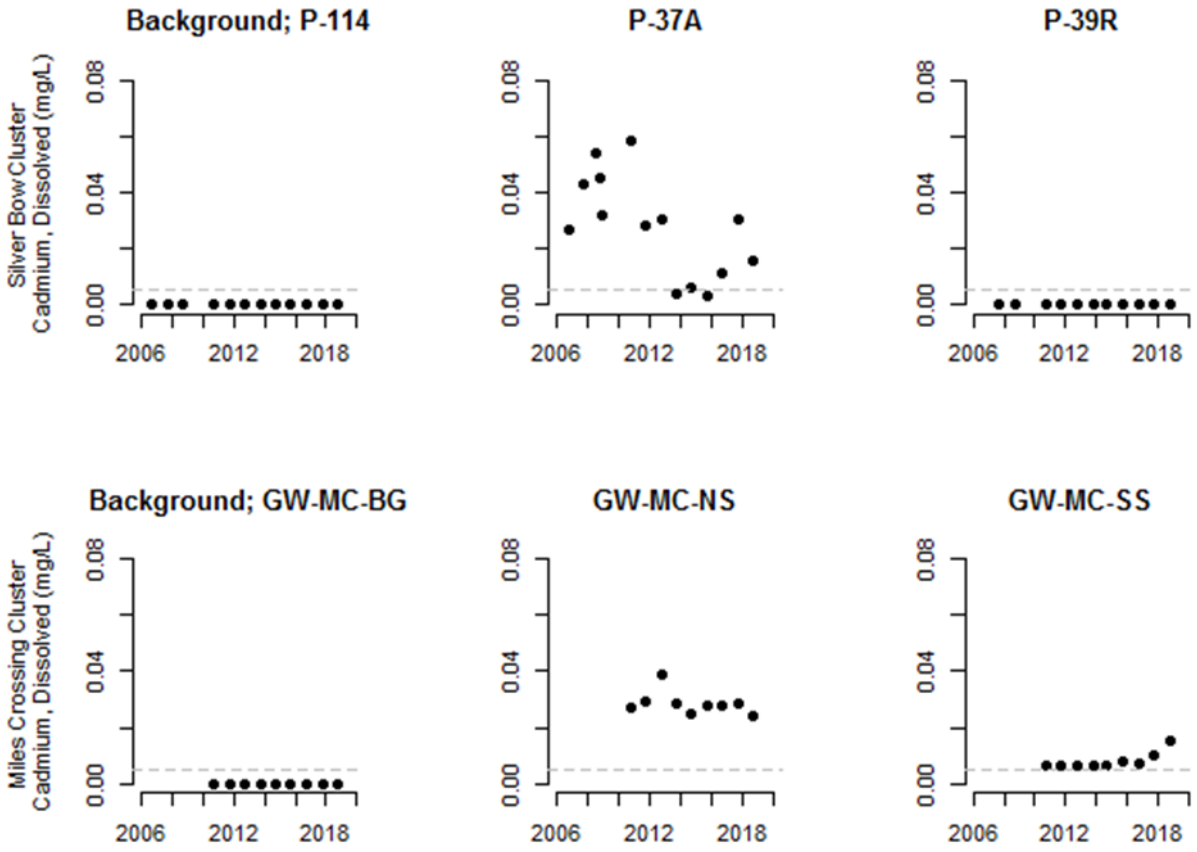

Figure 3-12. Cadmium concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Silver Bow Cluster and Miles Crossing Cluster.

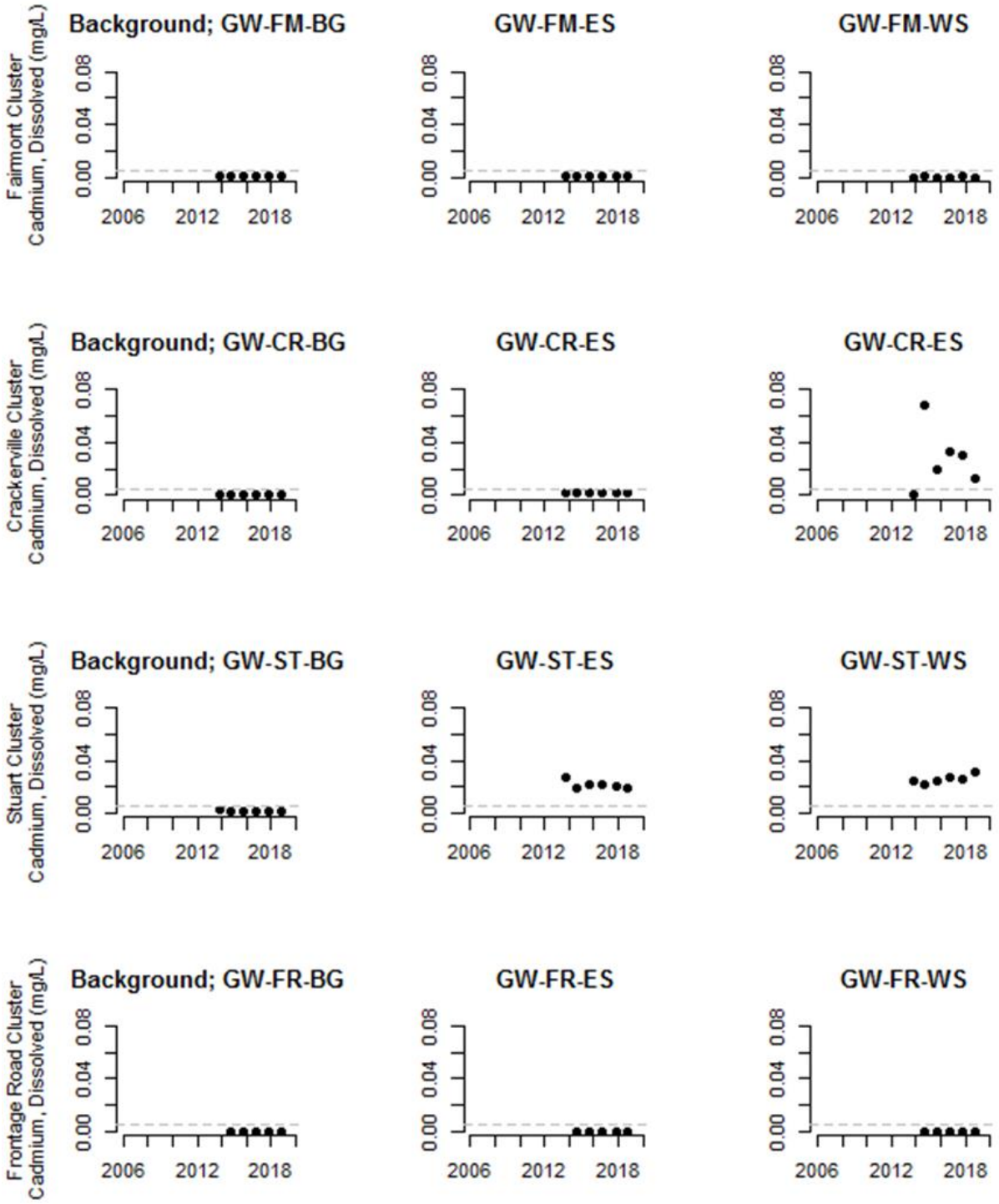

Figure 3-13. Cadmium concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Fairmont Cluster, Crackerville Cluster, Stuart Cluster, and Frontage Road Cluster.

3.4.2.1.3 Copper

Based on the monitoring period of record in the Silver Bow Creek floodplain, copper concentrations in floodplain monitoring wells were elevated relative to the background well in the Subarea 1 floodplain monitoring wells (Figure 3-14). Concentrations in some Subarea 1 wells have been variable (Wells MW-10 and P-58A) (Figure 3-14). In Subarea 2, copper concentrations were elevated relative to the background well in Well GW-MC-NS (Miles Crossing Cluster) (Figure 3-15). However, concentrations in Well GW-MC-NS appear to be decreasing substantially through time (). In Subarea 4, both of the wells located in the Stuart Cluster (Wells GW-ST-ES and GW-ST-WS) had elevated copper concentrations relative to the background well (Figure 3-16). Concentrations in Well GW-ST-ES have exceeded the MDHES [1994] groundwater standard during all of the sample periods (2013–2018) (Figure 3-16).

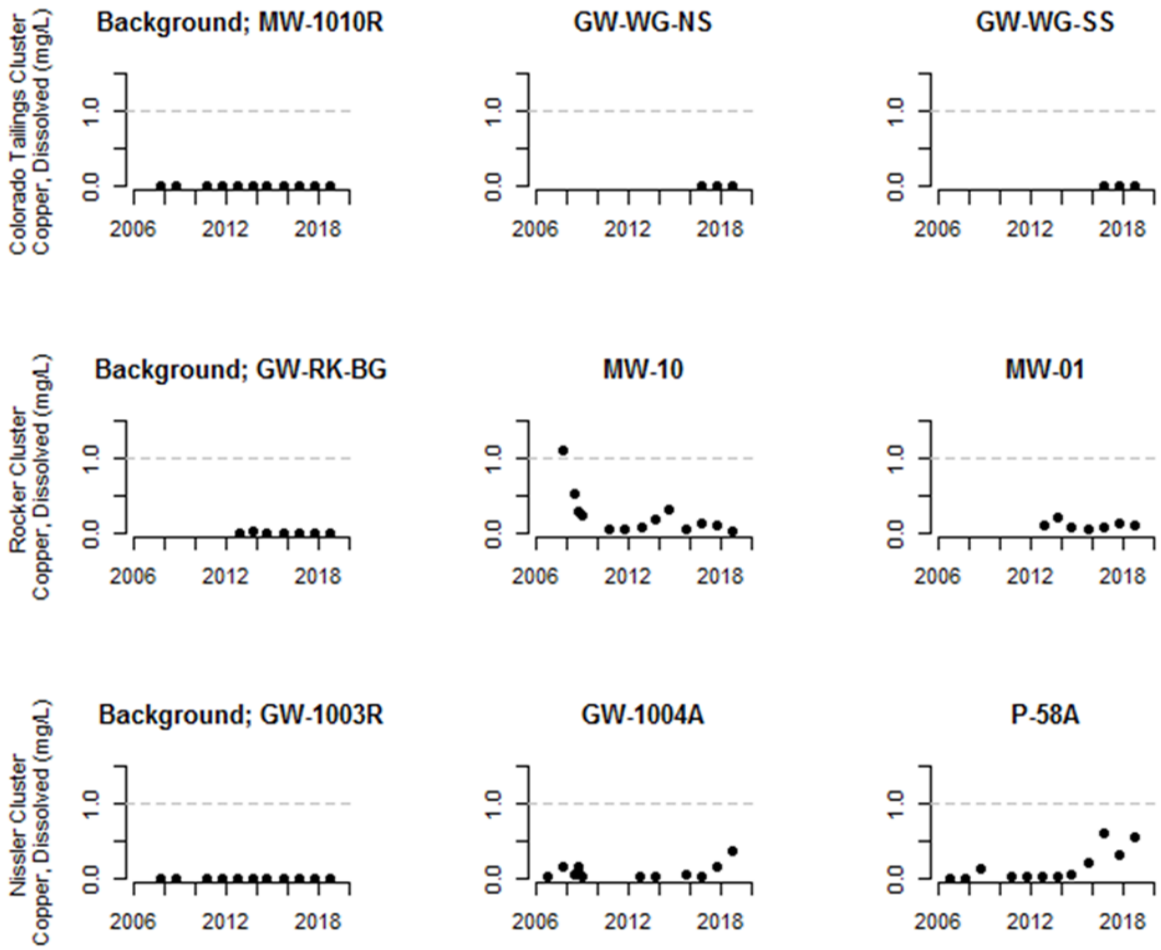

Figure 3-14. Copper concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Each row of plots represents a well cluster: Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

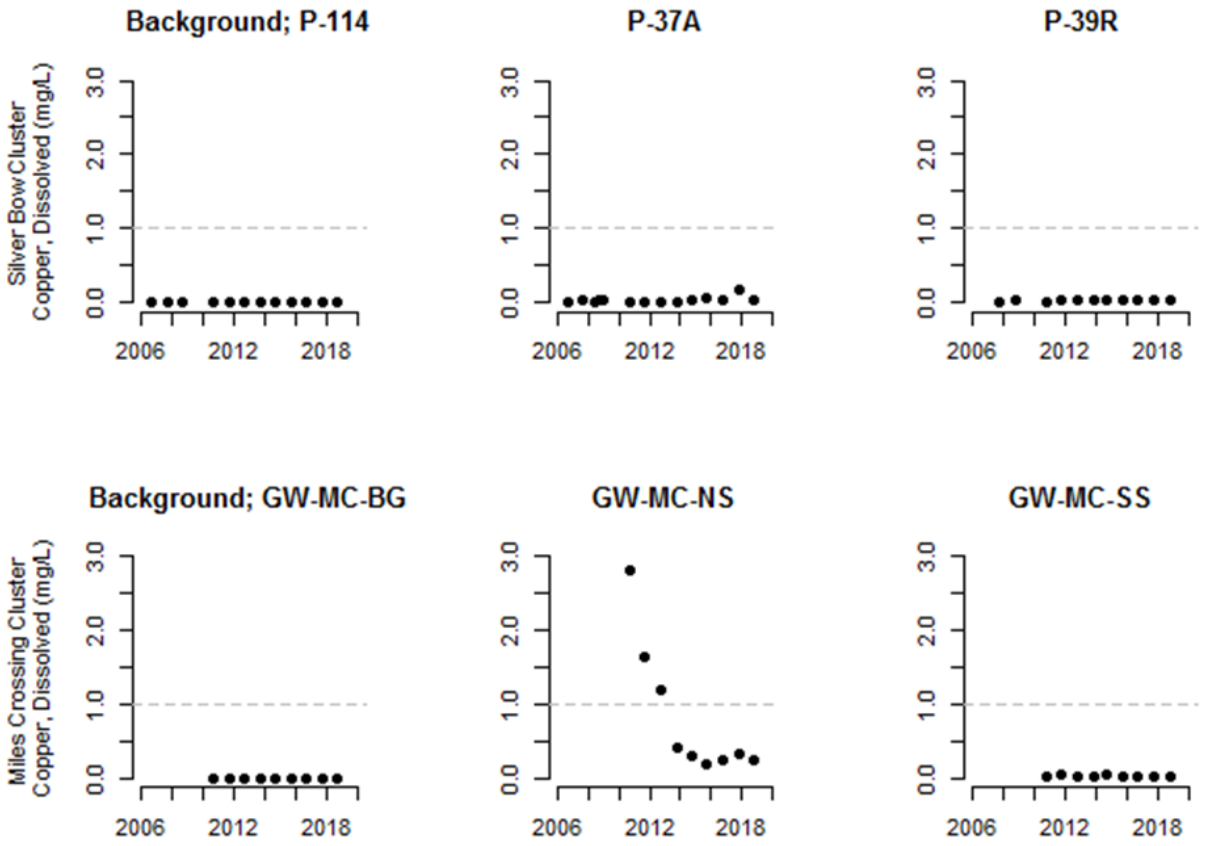

Figure 3-15. Copper concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Each row of plots represents a well cluster: Silver Bow Cluster and Miles Crossing Cluster.

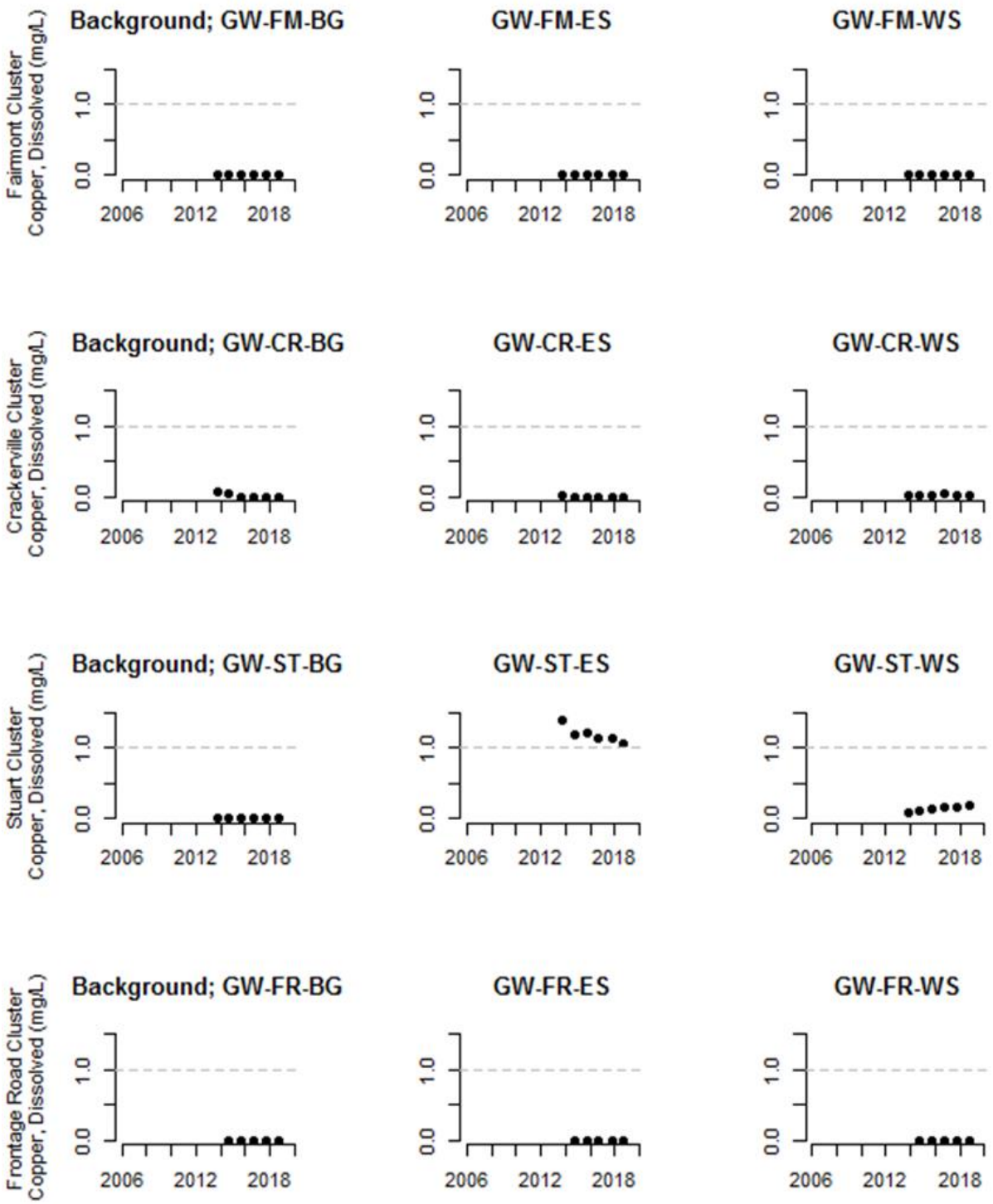

Figure 3-16. Copper concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [MDHES, 1994]. Each row of plots represents a well cluster: Fairmont Cluster, Crackerville Cluster, Stuart Cluster, and Frontage Road Cluster.

3.4.2.1.4 Lead

Based on the monitoring period of record in the Silver Bow Creek floodplain, lead concentrations in floodplain monitoring wells have generally been similar to the concentrations in the background wells in Subarea 1 with a few exceptions (Figure 3-17). In the Nissler Cluster, Well GW-1004A has had relatively high (and variable) concentrations since 2014 (Figure 3-17). In the Rocker cluster, Well MW-10 had elevated lead concentrations in 2006–2007, but concentrations have subsided since 2008 (Figure 3-17). In Subarea 2, lead concentrations in the monitoring well have been similar to the background wells (Figure 3-18). In Subarea 4, lead concentrations in the monitoring wells were similar to, or lower than, the concentrations in the background wells in all clusters in 2014 and 2015 (Figure 3-19). However, lead concentrations in the Fairmont Cluster (Wells GW-FM-ES and GW-FM-WS) were substantially higher than the background well in 2013 (Figure 3-19).

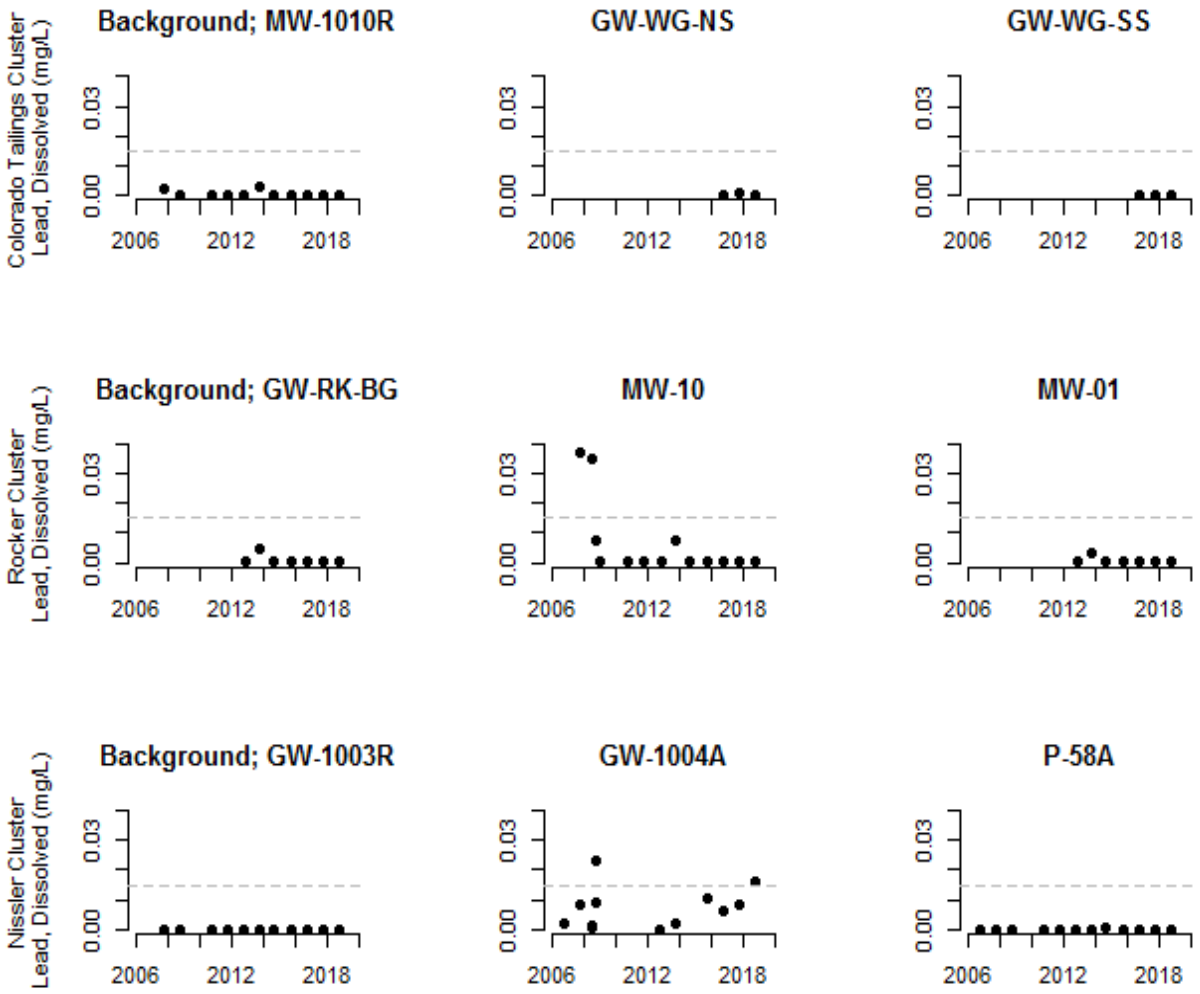

Figure 3-17. Lead concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

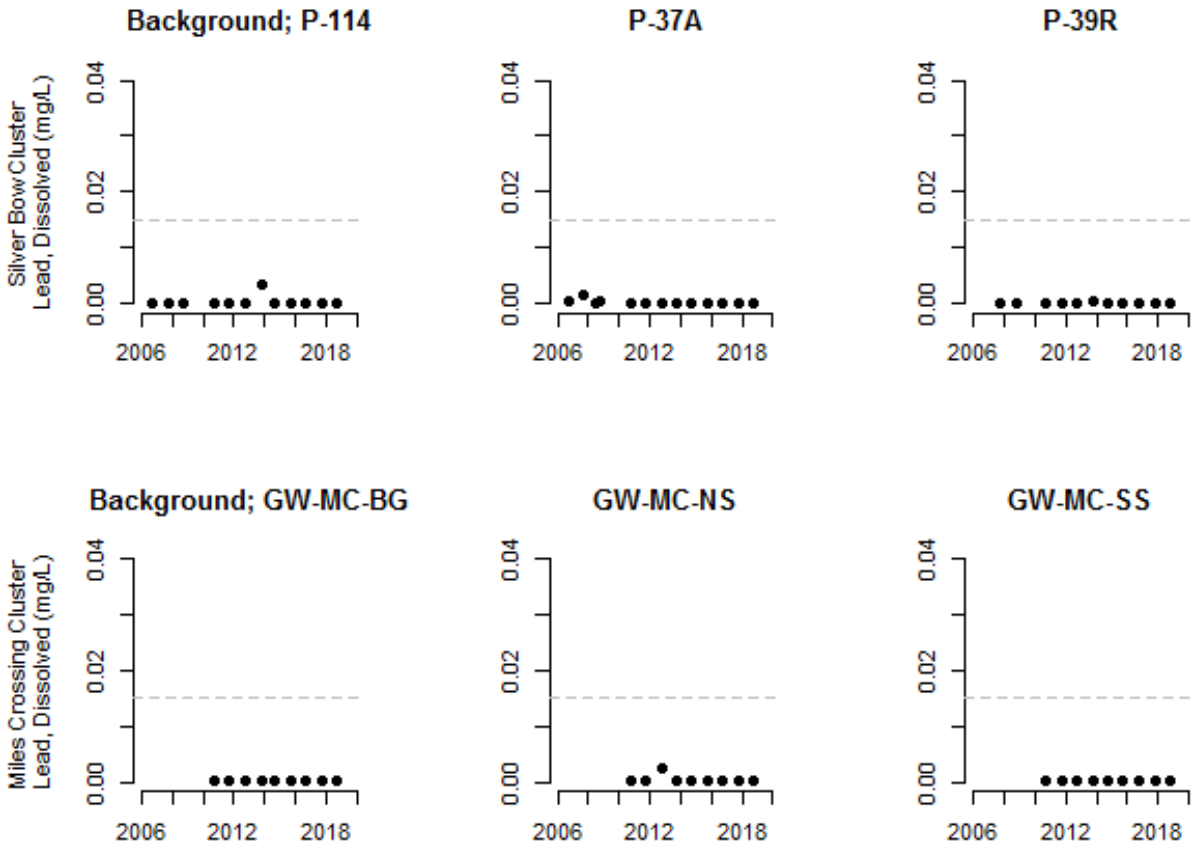

Figure 3-18. Lead concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Silver Bow Cluster and Miles Crossing Cluster.

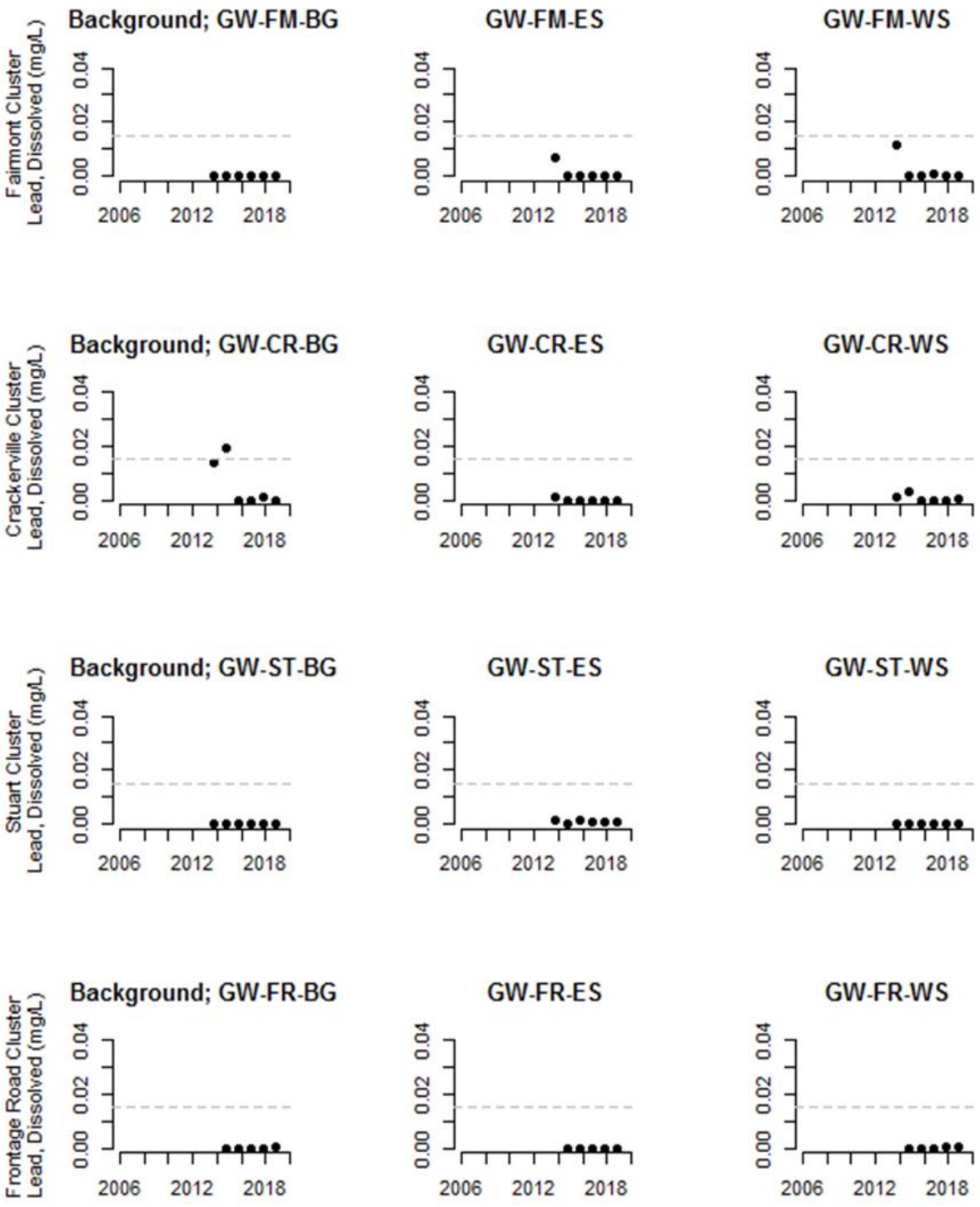

Figure 3-19. Lead concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Fairmont Cluster, Crackerville Cluster, Stuart Cluster, and Frontage Road Cluster.

3.4.2.1.5 Mercury

Based on the monitoring period of record in the Silver Bow Creek floodplain, mercury concentrations in the background wells have been similar to or less than the concentrations in the monitoring wells in all sample periods, except for one sample at Well GW-CR-WS in 2014 (Figure 3-20; Figure 3-21;Figure 3-22).

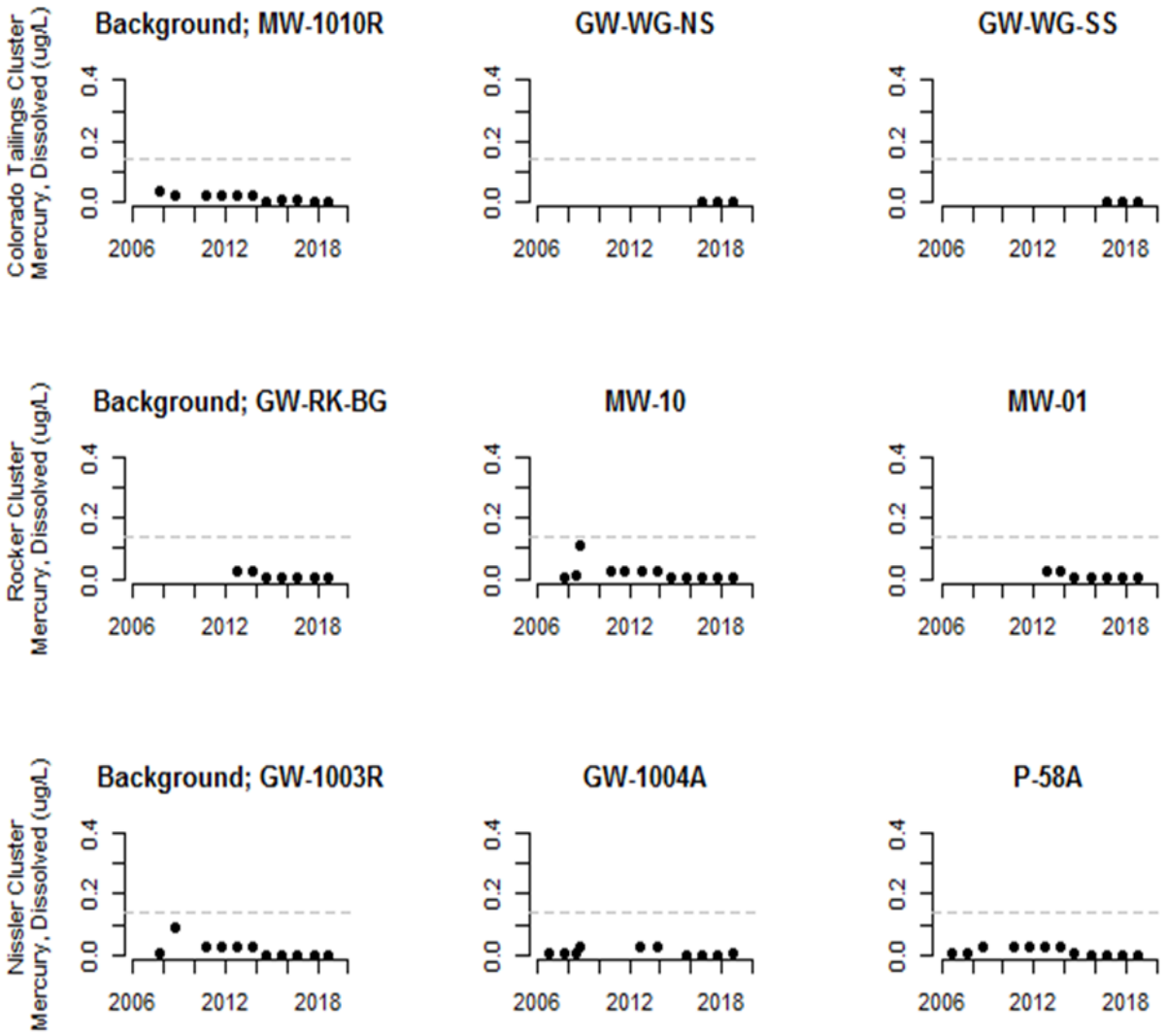

Figure 3-20. Mercury concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

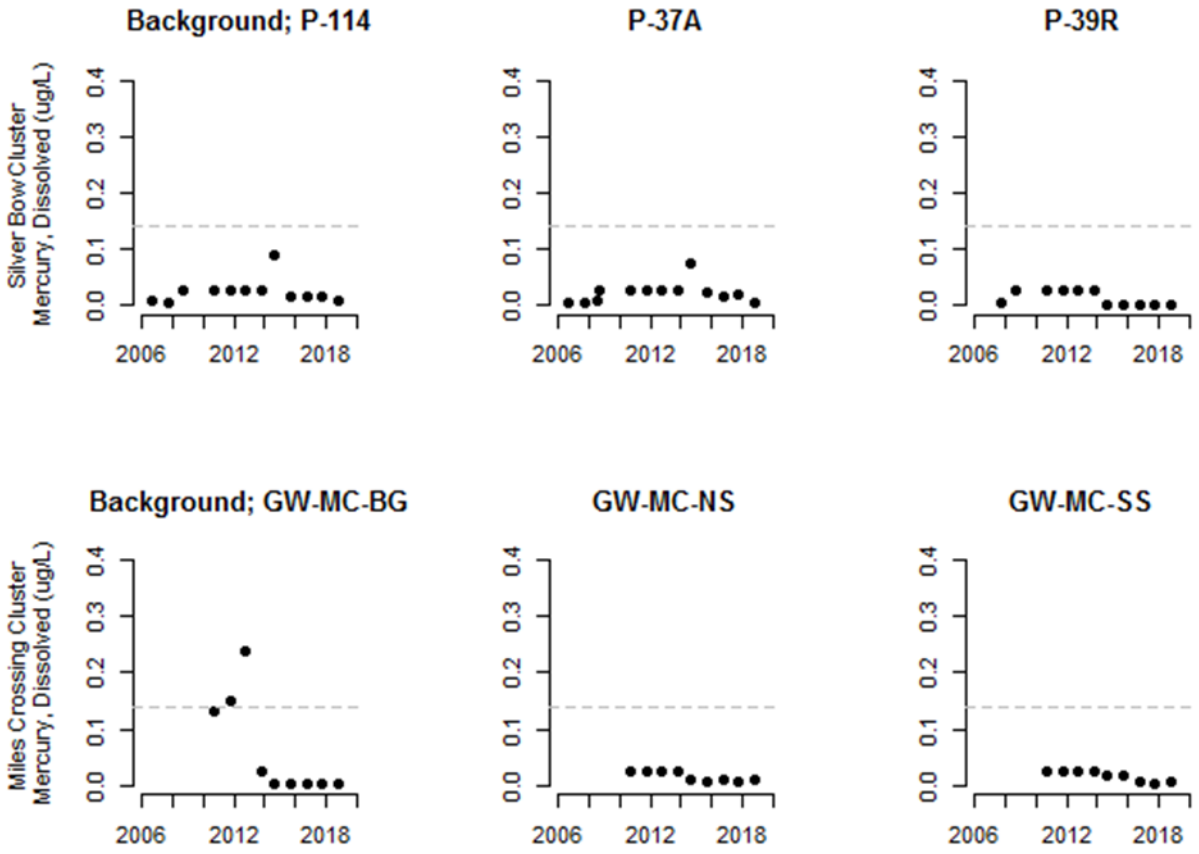

Figure 3-21. Mercury concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Silver Bow Cluster and Miles Crossing Cluster Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

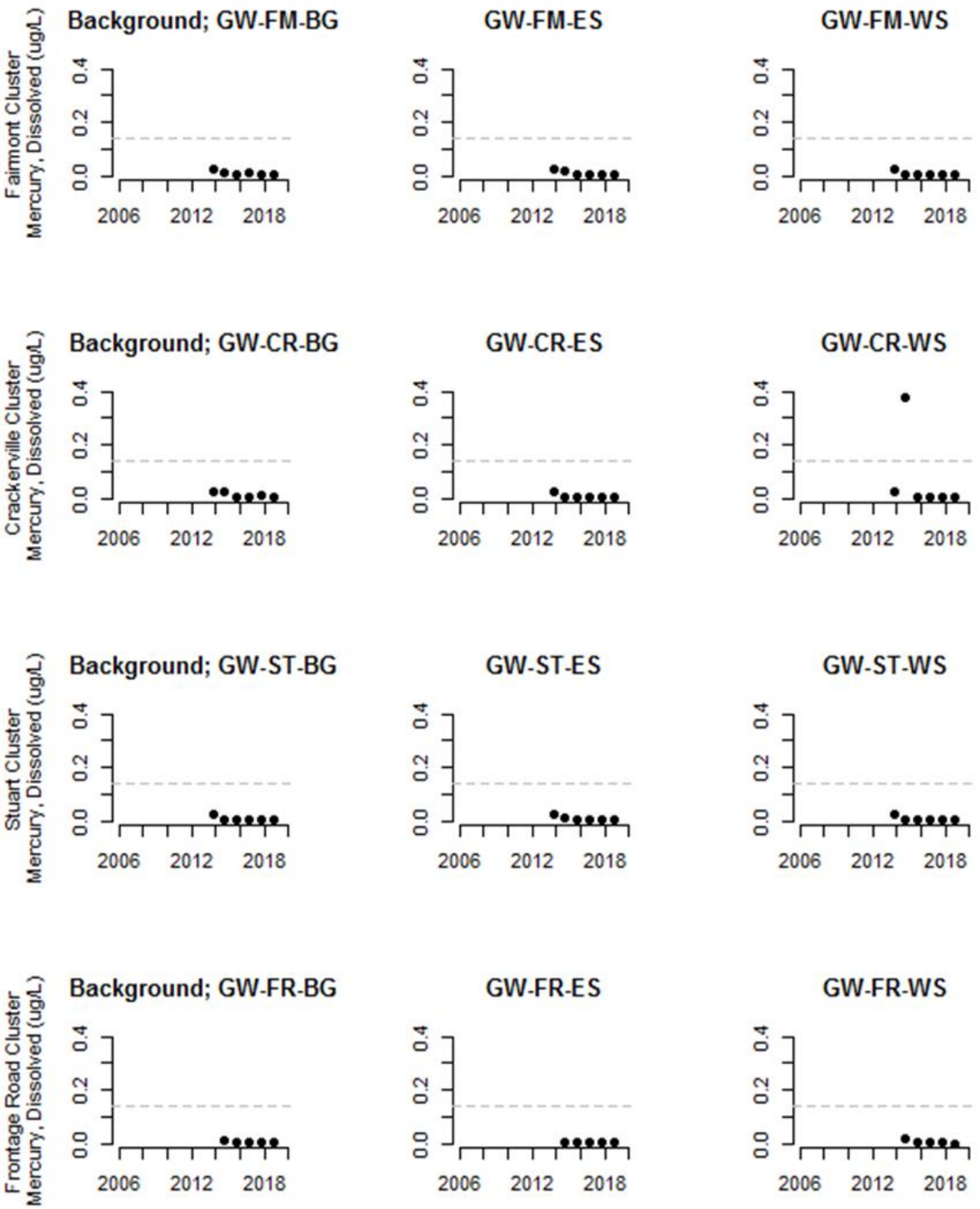

Figure 3-22. Mercury concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Fairmont Cluster, Crackerville Cluster, Stuart Cluster, and Frontage Road Cluster.

3.4.2.1.6 Zinc

Based on the monitoring period of record in the Silver Bow Creek floodplain, zinc concentrations in monitoring wells in the Rocker and Nissler Clusters (Subarea 1) (Figure 3-23), the Miles Crossing Cluster (Subarea 2) (Figure 3-24), and the Stuart Cluster (Subarea 4) (Figure 3-25) showed higher concentrations than the background wells. Monitoring well zinc concentrations that have routinely exceeded the groundwater standard [DEQ, 2017] include: Well MW-10 (Rocker Cluster) and Well GW-1004A and Well P-58A (Nissler Cluster) in Subarea 1 (Figure 3-23); Wells GW-MC-NS and GW-MC-SS (Miles Crossing Cluster) in Subarea 2 (Fiugre 3-24); and Wells GW-ST-ES and GW-ST-WS (Stuart Cluster) in Subarea 4 (Fiugre 3-25).

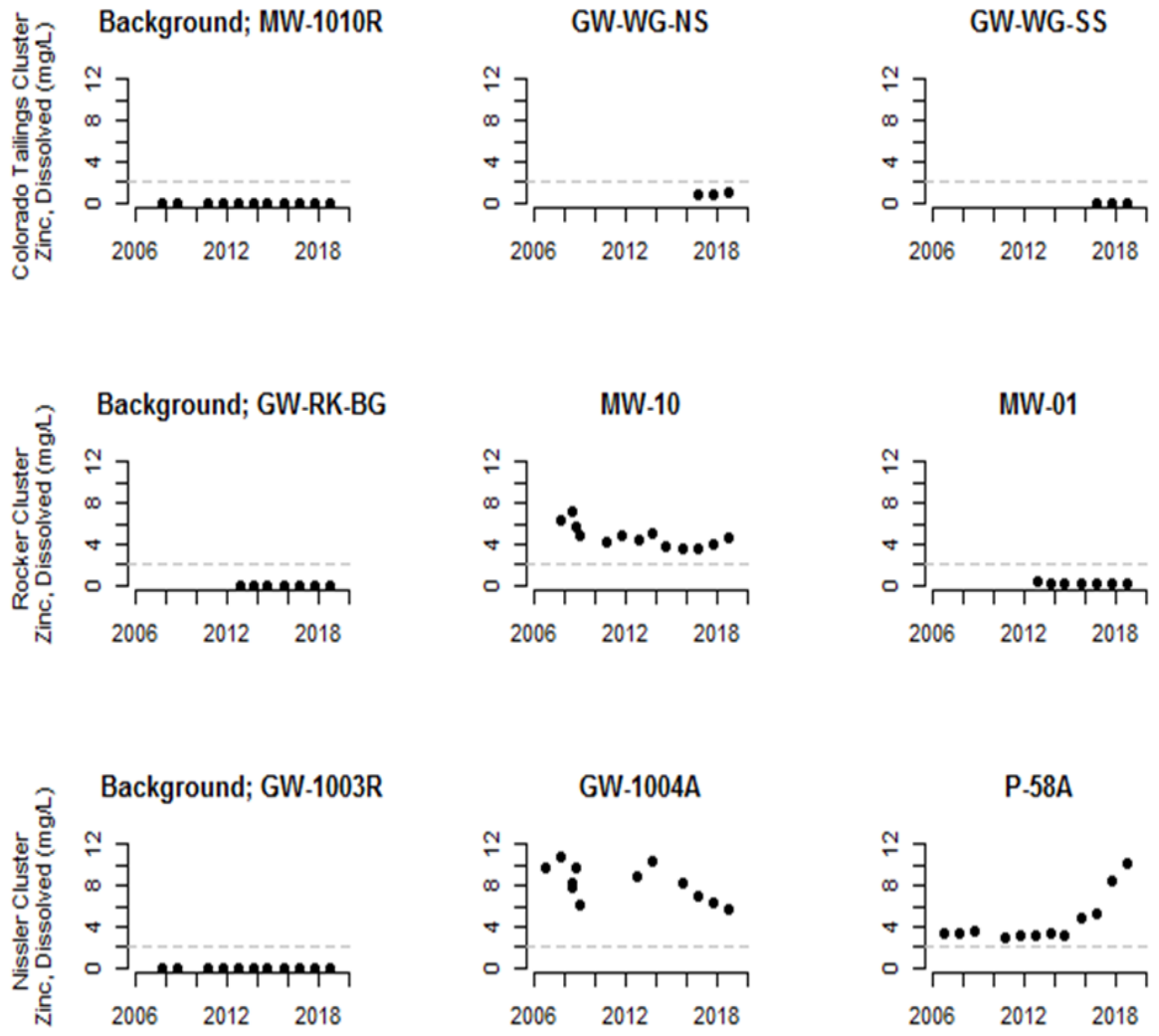

Figure 3-23. Zinc concentrations in groundwater wells located in Subarea 1 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Colorado Tailings Cluster, Rocker Cluster, and Nissler Cluster.

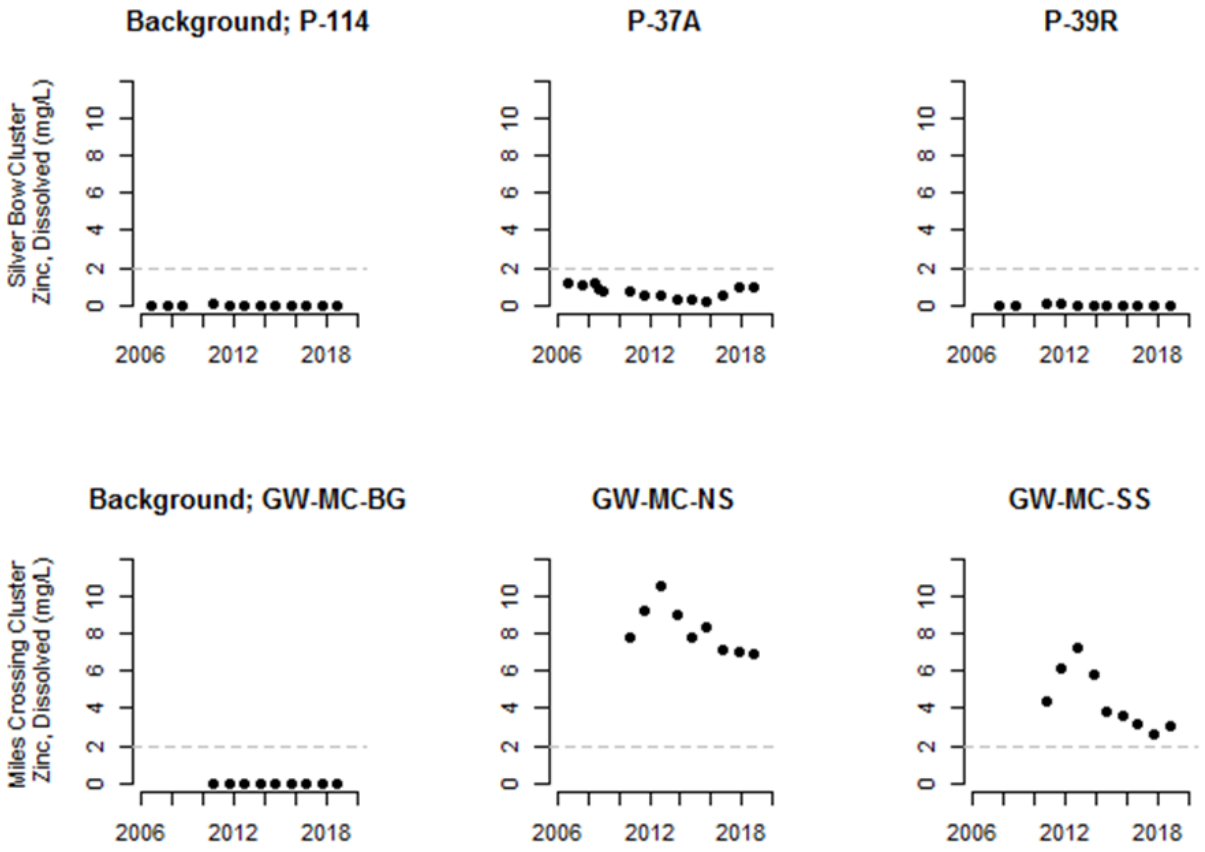

Figure 3-24. Zinc concentrations in groundwater wells located in Subarea 2 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Silver Bow Cluster and Miles Crossing Cluster.

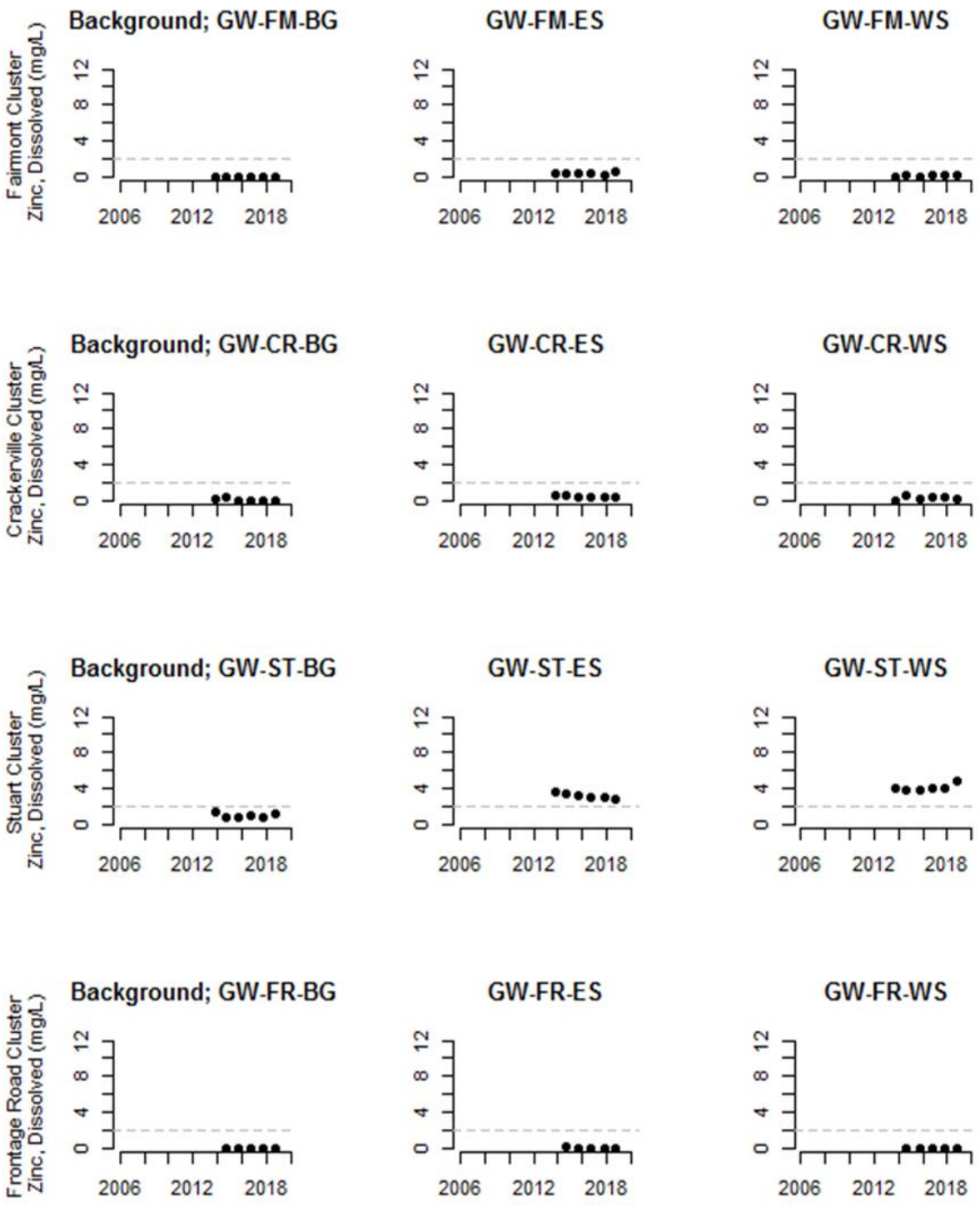

Figure 3-25. Zinc concentrations in groundwater wells located in Subarea 4 of the Streamside Tailings Operable Unit (2006–2018). Gray dashed line represents the human health groundwater standard [DEQ, 2017]. Each row of plots represents a well cluster: Fairmont Cluster, Crackerville Cluster, Stuart Cluster, and Frontage Road Cluster.

3.4.2.2 Other Metals

Concentrations of non-COC metals in the Silver Bow Creek floodplain wells in 2018 are displayed in Table 3-11. One monitoring well in the Colorado Tailings Cluster (Subarea 1) had an antimony concentration that exceeded the DEQ [2017] human health groundwater standard. Two samples had uranium concentrations that exceeded the DEQ [2017] human health groundwater standard: the background well MW-1010R in the Colorado Tailings Cluster and the monitoring well P-39R in the Silver Bow Cluster in Subarea 1 (Table 3-11).

3.4.2.3 Common Ions

Common ion concentrations in floodplain monitoring wells are depicted in Table 3-12. Calcium concentrations of most wells typically increased from 2017 to 2018.

3.4.3 Data Validation

Four field-blank samples were collected in 2018 and each was analyzed for 30 analytes. All analyte concentrations in all field blanks were below the analytical reporting limits.

Four field-duplicate samples were collected in 2018 and each analyte concentration in those samples was compared to the analyte concentration in the paired field sample. The relative percent difference (RPD) between each analyte pair (30 analytes per sample) was calculated for a total of 120 sample pairs. Of those 120 pairs, 5 pairs had at least one sample concentration that was more than 5 times the analytical reporting limit and had an RPD that was greater than 25 percent: total alkalinity, dissolved aluminum, bicarbonate, dissolved iron, and dissolved manganese in Well GW-FR-BG had RPDs of 28, 200, 29, 184, and 93 percent, respectively, on October 4, 2018.

A completed quality assurance and quality control checklist, summary tables of field-duplicate and field-blank results, and assessments of data quality objectives are included in Appendix A. Results from the analytical laboratory are included in Appendix B. The 2018 groundwater monitoring data are included in Appendix E.

Table 3-11. Dissolved metal (non-contaminant of concern) concentrations (mg/L) in groundwater monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, October 2018.

Cluster	Site	Dissolved Metals[49(a)]														
		Al	Sb	Ba	Be	B	Cr	Co	Fe	Mn	Mb	Ni	Se	Ag	U	V
Colorado Tailings	MW-1010R*	ND	0.0004[J]	0.020	ND	0.1	0.0008[J]	ND	0.004[J]	ND	0.01	0.003[J]	0.00028[J]	ND	0.0864	0.00086[J]
	GW-WG-NS	ND	0.00026[J]	0.040	ND	0.1	ND	0.0049[J]	0.003[J]	5.270[D]	0.013	0.0012[J]	0.00012[J]	ND	0.0255	0.00018[J]
	GW-WG-SS	ND	0.0009	0.005	ND	0.1	ND	ND	ND	0.006	0.021	0.0008[J]	0.00033[J]	ND	0.0183	0.00044[J]
Rocker	GW-RK-BG*	ND	0.00015[J]	0.075	ND	0.038[J]	ND	ND	ND	0.0003[J]	0.013	0.0003[J]	0.001	ND	0.0072	0.0047[J]
	MW-01	0.008[J]	0.00031[J]	0.022	ND	0.1	ND	0.00026[J]	0.012[J]	0.272[D]	0.0027[J]	0.0009[J]	0.00017[J]	ND	0.0114	0.00062[J]
	MW-10	0.079	ND	0.021	ND	0.096[J]	ND	0.02	12.7	12.70[D]	0.0011[J]	0.01	0.00003[J]	ND	0.0008	ND
Nissler	GW-1003R*	ND	ND	0.040	ND	0.043[J]	ND	ND	ND	0.0006[J]	0.012	ND	0.00046[J]	ND	0.0029	0.0051[J]
	GW-1004A	0.292	ND	0.012	0.0001[J]	0.1	ND	0.04	48.5	19.30[D]	ND	0.014	0.00009[J]	ND	0.001	ND
	P-58A	1.07	ND	0.031	0.0006[J]	0.081[J]	ND	0.04	21.6	11.40[D]	0.00004[J]	0.03	0.00008[J]	ND	0.0007	ND
Silver Bow	P-114*	ND	0.00037[J]	0.027	ND	0.085[J]	ND	ND	ND	0.005	0.007	0.0004[J]	0.00088[J]	ND	0.003	0.00043[J]
	P-37A	0.004[J]	ND	0.025	ND	0.092[J]	ND	0.01	0.012[J]	6.500[D]	0.00076[J]	0.004	0.0001[J]	ND	0.0017	0.00009[J]
	P-39R	ND	0.00023[J]	0.111	ND	0.3	ND	ND	0.009[J]	0.003	0.006	0.0007[J]	0.002	ND	0.1110	0.0073[J]
Miles Crossing	GW-MC-BG*	ND	0.00021[J]	0.023	ND	0.077[J]	ND	0.00013[J]	ND	0.003	0.052	0.0005[J]	0.00027[J]	ND	0.004	0.0032[J]
	GW-MC-NS	0.032	0.0005	0.032	ND	0.064[J]	ND	0.01	0.02	5.110[D]	0.007	0.012	0.00017[J]	ND	0.0058	0.00072[J]
	GW-MC-SS	ND	0.00042[J]	0.049	ND	0.062[J]	ND	0.00058[J]	ND	2.650[D]	0.016	0.007	0.0002	ND	0.0061	0.009[J]
Fairmont	GW-FM-BG*	0.015	0.00012[J]	0.053	0.0004[J]	0.031[J]	ND	0.00024[J]	ND	0.635[DJ]	0.00011[J]	0.007	0.0006[J]	ND	0.0003	0.0015[J]
	GW-FM-ES	ND	0.0004[J]	0.055	ND	0.062[J]	ND	0.0022[J]	0.006	1.460[DJ]	0.0047[J]	0.002	0.00042[J]	ND	0.0019	0.00042[J]
	GW-FM-WS	ND	0.00022[J]	0.099	ND	0.052[J]	ND	0.00047[J]	0.005[J]	2.130[DJ]	0.006	0.0012[J]	0.00021[J]	ND	0.0021	0.0014[J]
Crackerville	GW-CR-BG*	0.012	0.0016	0.016	ND	0.2	ND	0.00083[J]	0.018[J]	0.156	0.027	0.0018[J]	0.00023[J]	ND	0.0032	0.006[J]
	GW-CR-ES	0.017	0.00041[J]	0.016	ND	0.062[J]	0.0004[J]	0.00023[J]	ND	0.043	0.006	0.002	0.00018[J]	ND	0.0012	0.0025[J]
	GW-CR-WS	0.04	0.0008	0.035	ND	0.2	ND	0.0021[J]	0.06	1.520[D]	0.027	0.002	0.00014[J]	ND	0.0063	0.00072[J]

[49] Metal abbreviations: Al = aluminum, Sb = antimony, Ba = barium, Be = beryllium, B = boron, Cr = chromium, Co = cobalt, Fe = iron, Mn = manganese, Mb = molybdenum, Ni = nickel, Se = selenium, Ag = silver, U = uranium, and V = vanadium.

Cluster	Site	Dissolved Metals[49(a)]														
		Al	**Sb**	**Ba**	**Be**	**B**	**Cr**	**Co**	**Fe**	**Mn**	**Mb**	**Ni**	**Se**	**Ag**	**U**	**V**
Stuart	GW-ST-BG*	0.017[J]	ND	0.021	ND	0.074[J]	ND	0.00016[J]	ND	0.4[DJ]	0.00003[J]	0.022	0.00009[J]	ND	0.00005[J]	0.0014[J]
	GW-ST-ES	0.356[J]	ND	0.020	0.0005[J]	0.053[J]	ND	0.0056	0.004[J]	1.060[DJ]	0.00021[J]	0.008	0.00011[J]	0.00003[J]	0.0017	0.00022[J]
	GW-ST-WS	0.141[J]	0.00024[J]	0.031	0.0005[J]	0.050[J]	ND	0.01	0.13	2.500[DJ]	0.0015[J]	0.016	0.00014[J]	ND	0.0011	0.0017[J]
Frontage Road	GW-FR-BG*	0.106[J]	0.0012	0.040	ND	0.007[J]	ND	0.0001[J]	0.14[J]	0.058[J]	0.0039[J]	0.0008[J]	0.0007[J]	ND	0.0045	0.0061[J]
	GW-FR-ES	ND	0.00036[J]	0.036	ND	0.024[J]	ND	ND	0.019[J]	0.029[J]	0.005	0.0008[J]	0.00024[J]	ND	0.0158	0.00051[J]
	GW-FR-WS	ND	0.0011	0.060	ND	ND	ND	0.00036[J]	0.009[J]	0.137[J]	0.007	0.0004[J]	0.00015[J]	ND	0.0133	0.009[J]

*	Background well.
ND	Not detected at method detection limit.
D	Result obtained from analysis of diluted sample.
J	Estimated because:)result is between the method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).
	Exceeds DEQ [2017] standard.

Table 3-12. Common ion concentrations (mg/L) in groundwater monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, October 2018.

Cluster	Site	Alkalinity (as $CaCO_3$)	Bicarbonate Alkalinity (as HCO_3)	Calcium	Chloride	Hardness (as $CaCO_3$)	Magnesium	Potassium	Sodium	Sulfate
Colorado Tailings	MW-1010R*	260	320	94	23	308	18	6	132	348
	GW-WG-SS	150	190	71	66	217	10	7	79	171
	GW-WG-NS	220	260	203	40	645	34	9	90	641
Rocker	GW-RK-BG*	140	170	61	39	204	14	5	40	120
	MW-01	180	220	115	20	372	21	8	34	279
	MW-10	41	50	61	58	215	15	6	37	254
Nissler	GW-1003R*	120	150	33	15	110	7	5	31	55
	GW-1004A	ND	ND	60	68	269	29	6	48	463
	P-58A	14	17	82	92	290	21	8	52	356
Silver Bow	P-114*	200	240	57	40	166	6	4	98	143
	P-37A	99	120	139	124	438	25	8	92	437
	P-39R	310	380	164	60	530	30	13	85	353
Miles Crossing	GW-MC-BG*	270	320	40	85	136	9	5	241	275
	GW-MC-NS	69	83	38	50	136	10	6	34	107
	GW-MC-SS	130	160	53	49	187	13	6	35	91
Fairmont	GW-FM-BG*	43^J	52^J	43	30	143	9	6	28	125
	GW-FM-ES	120^J	150^J	67	54	220	13	6	38	134
	GW-FM-WS	130^J	160^J	53	34	178	11	4	25	79
Crackerville	GW-CR-BG*	160	190	15	19	46	2	4	127	120
	GW-CR-ES	95	120	40	38	132	8	3	54	112
	GW-CR-WS	160	200	37	37	116	6	5	84	107
Stuart	GW-ST-BG*	17	20	68	79	234	16	4	24	190
	GW-ST-ES	6	7	29	36	92	4	4	22	103
	GW-ST-WS	29^J	35^J	37	41	125	8	5	25	119
	GW-FR-BG*	290^J	360^J	42	2	138	8	2	9	47

Cluster	Site	Alkalinity (as $CaCO_3$)	Bicarbonate Alkalinity (as HCO_3)	Calcium	Chloride	Hardness (as $CaCO_3$)	Magnesium	Potassium	Sodium	Sulfate
Frontage Road	GW-FR-ES	150[J]	180[J]	75	22	252	16	3	17	148
	GW-FR-WS	150[J]	180[J]	54	2	176	10	2	12	66

* Background well.

ND Not detected at method detection limit.

J Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).

3.5 DISCUSSION

3.5.1 Mine Waste Relocation Repository

Data from 2018 provided no evidence that COCs were leaching from the MWRR into nearby groundwater during wet (July) or dry periods (October). Except for arsenic, all COC concentrations in the monitoring wells were either below the analytical reporting limits or near the reporting limits. For arsenic, concentrations were consistently highest in the background monitoring well and these results are consistent with previous monitoring years. Data do not indicate that any substantial increases in COC concentrations are occurring through time in any of the MWRR monitoring wells, which would be expected if leaching of COC from the repository was occurring.

3.5.2 Floodplain

In 2018, several floodplain well samples had COC concentrations above the background well concentration, above the most restrictive MDHES [1994] or DEQ [2017] groundwater standard, or both. Arsenic concentrations were generally highest in the background wells, particularly in the Miles Crossing (Subarea 2) and Crackerville (Subarea 4) Clusters. However, cadmium, copper, lead, and zinc concentrations in certain monitoring wells were sometimes an order of magnitude higher than the concentration in the background well. Cadmium and zinc concentrations in monitoring wells were also frequently several times greater than the groundwater standard, and the copper and lead standards were each exceeded in one well. These results indicate that portions of the shallow groundwater aquifer in the SSTOU remain contaminated by COC. Uranium concentrations exceeded the DEQ [2017] groundwater standard in two wells, one of which was a background well. Monitoring results in 2018 were generally similar to previous years, although certain COC concentrations have been variable through time.

3.5.3 Data Validation

Quality assurance and quality control results suggested that field procedures in 2018 resulted in little or no sample contamination. All field blank analyte concentrations were below reporting limits suggesting decontamination procedures were adequate. All but two constituent comparisons of field samples and field duplicates were within the sampling precision data quality objectives for the project.

4.0 VADOSE ZONE WATER

4.1 INTRODUCTION

This chapter describes vadose zone water quality monitoring data collected in 2018 to evaluate the effectiveness of the Mine Waste Relocation Repository (MWRR) at isolating the vadose zone from metal contaminants of concern (COCs) in waste materials stored at the MWRR. If leaching of metal COCs from the MWRR occurs there is a potential for contamination of groundwater and surface water in the Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List site.

The vadose zone is the area between the soil surface and the groundwater table. Vadose zone soil moisture can transport colloidal and dissolved nutrients, minerals, and contaminants through the soil column. Constituent concentrations are typically higher in vadose zone water compared to groundwater; therefore, existing groundwater standards are not applicable to vadose zone water. Instead of groundwater standard comparisons, COC concentrations in vadose zone water at lysimeters, which are located down-gradient from the repository (i.e., monitoring lysimeters) were evaluated and compared to COC concentrations from previous years to look for variation in concentrations over time. If COC concentrations are increasing over time, leaching of COCs from the repository may be in progress.

4.2 METHODS

The purpose of the vadose zone monitoring program is to collect data that describe temporal variation of metal and ion concentrations in vadose zone water near the MWRR in the SSTOU. These data provide a long-term record of vadose zone water COC and ion concentrations near the MWRR. These long-term data will be used to assess if leaching COCs from the MWRR to groundwater and surface water in the SSTOU has occurred or is occurring. A record of changes to the vadose zone monitoring program is provided in the program monitoring plan [RESPEC, 2018b]. This monitoring program attempts to fully adhere to monitoring requirements specified in the SSTOU Record of Decision (ROD) (Table 4-1).

4.2.1 Monitoring Locations

Vadose zone water chemistry was monitored at eight lysimeters located near the MWRR in 2018 (Figure 4-1). LYS-04 was discontinued due to malfunction and replaced with LYS-04R in 2018 (Figure 4-1;

Table 4-2).

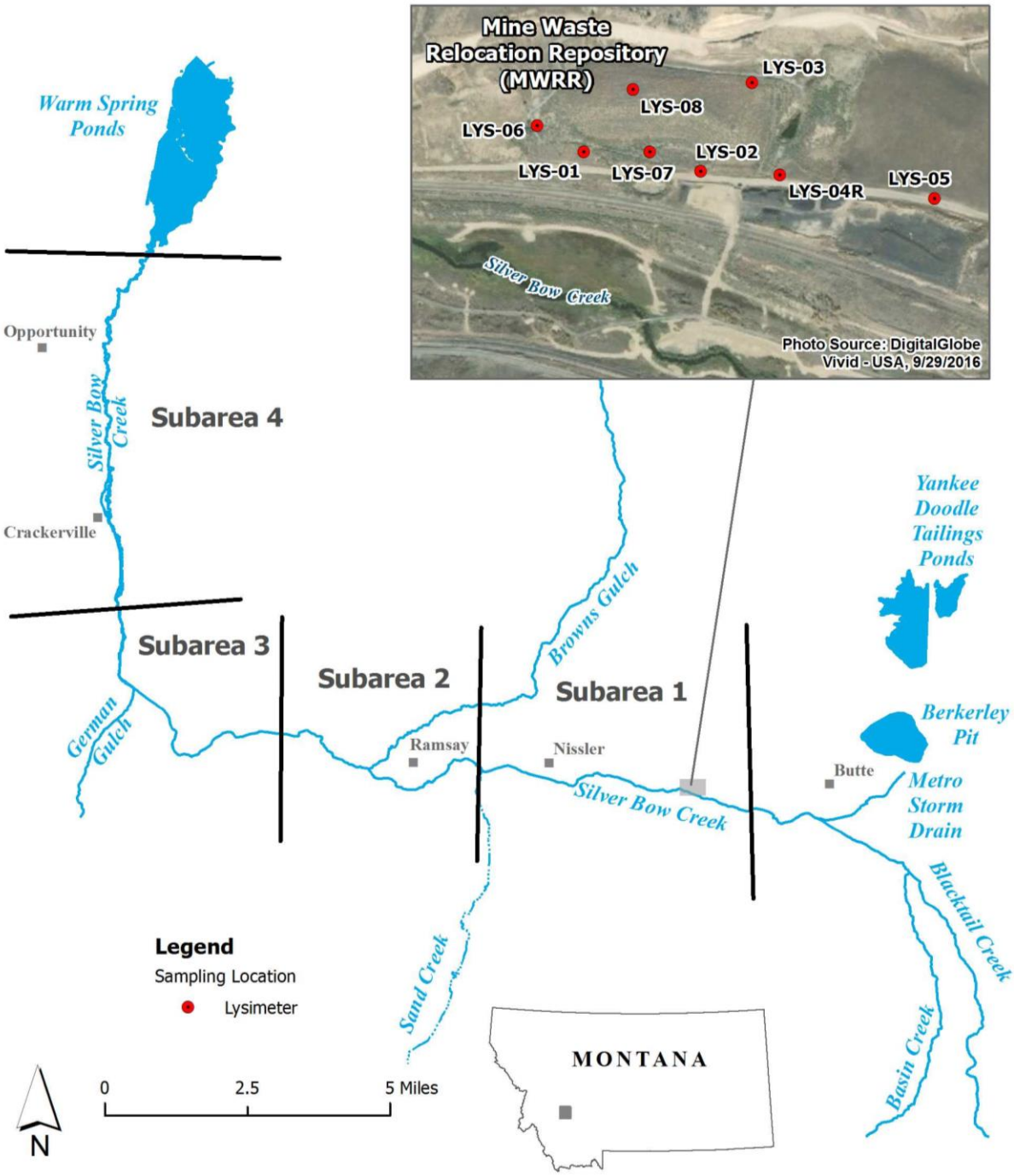

Figure 4-1. Sampling locations for vadose zone water monitoring in the Streamside Tailings Operable Unit.

Table 4-1. Minimum post-remedy monitoring requirements specified in the Record of Decision for the Streamside Tailings Operable Unit [DEQ and USEPA, 1995].

Locations/Physical	Analytical Parameters	Analytes
In conjunction with groundwater sampling locations; three (3) per repository location	Metals (dissolved)	Arsenic, cadmium, copper, lead, mercury, zinc
	Common ions	Calcium, magnesium, sodium, potassium, chloride, sulfate
	Physical properties	Temperature, acidity (pH), oxidation-reduction potential, conductance

Table 4-2. Lysimeter locations for vadose zone water monitoring of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit.

Lysimeter ID	Purpose	Location (GPS coordinates, NAD 83)	
		Latitude	Longitude
LYS-01	Monitoring	46.00261	–112.58599
LYS-02	Monitoring	46.00244	–112.58403
LYS-03	Monitoring	46.00349	–112.58323
LYS-04R	Monitoring	46.00243	-112.58270
LYS-05	Monitoring	46.00223	–112.58011
LYS-06	Background	46.00289	–112.58679
LYS-07	Monitoring	46.00264	–112.58489
LYS-08	Monitoring	46.00336	–112.58521

4.2.2 Monitoring Parameters

Vadose zone water samples were analyzed for the parameters and analytes listed in Table 4-3.

Table 4-3. Sampling parameters and analytes for vadose zone water monitoring near the Mine Waste Relocation Repository of the Streamside Tailings Operable Unit.

Parameter	Analytes
Concentrations of metal contaminants of concern (dissolved)	Arsenic, cadmium, copper, lead, mercury, zinc
Concentrations of other metals (dissolved)	Aluminum, antimony, barium, beryllium, boron, cobalt, chromium, iron, manganese, molybdenum, nickel, selenium, silver, uranium, vanadium
Common ion concentrations	Sulfate, total alkalinity, bicarbonate alkalinity, calcium, magnesium, sodium, potassium, chloride, hardness

4.2.3 Sample Collection and Analysis Procedures

Sample collection, analysis, and quality assurance procedures are described in the project sampling and analysis plan [RESPEC, 2018b]. The methods generally followed standard operating procedures (SOPs) developed for the Clark Fork River [AR, 1992]. Field sampling procedures were in accordance with DEQ [2012a] and followed the "clean hands/dirty hands" procedures described in the US Geological Survey [2006].

Because of low sample volumes in the lysimeters, some deviations from the described SOPs occurred. Sample bottles were not triple rinsed with each sample before collection, and samples were lab filtered, instead of being field filtered. When sample volume was very limited (less than 20 milliliters [mL]), dissolved metals were prioritized over common ions for laboratory analysis. Finally, field parameters (i.e., water temperature, pH, dissolved oxygen concentration, and conductivity) were not measured.

Calibration methods for field meters, data recording and handling methods, and quality assurance and quality control procedures are described in the project quality assurance project plan (QAPP) [RESPEC, 2014]. Samples were analyzed by Energy Laboratories (Helena, Montana). Laboratory analysis procedures for each analyte are presented in Table 4-4.

4.2.4 Data Analysis

Dissolved metal and common ion concentrations from 2018 are tabulated for each sampling event in each monitoring lysimeter. In addition, all metal COC concentrations are plotted through time for the monitoring period from 2010–2018 for assessing temporal trends at each site.

4.2.5 Data Validation

Data quality objectives were established in the SSTOU monitoring project quality assurance project plan (QAPP) for data representativeness, comparability, completeness, sensitivity, precision, bias, and accuracy [RESPEC, 2014]. Methods for field and laboratory procedures are described in detail in the project QAPP. A completed quality assurance and quality control

checklist, summary tables of field duplicate and field blank results, and assessments of data quality objectives are included in Appendix A.

Table 4-4. Analytes, methods, and reporting limits for groundwater sampling in the Streamside Tailings Operable Unit.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[50]	Holding Time (days)	Bottle	Preservative[51]
Water Samples - Physical Properties and Inorganics					
Alkalinity, Total (as $CaCO_3$)	A 2320 B	4	14	500 mL HDPE	4 ± 2 C
Alkalinity, Bicarbonate (as HCO_3)	A 2320 B	4	14		
Chloride	EPA 300.0	1	28		
Sulfate	EPA 300.0	1	28		
Hardness (as $CaCO_3$)	A 2340 B	1	180		
Water Samples - Dissolved Metals (0.45 µm filtered)[(b)]					
Aluminum	EPA 200.8	0.009	180	250 mL HDPE	HNO_3 to pH <2
Antimony	EPA 200.8	0.0005			
Arsenic	EPA 200.8	0.001			
Barium	EPA 200.8	0.003			
Beryllium	EPA 200.8	0.0008			
Boron	EPA 200.7	0.1			
Cadmium	EPA 200.8	0.00003			
Calcium	EPA 200.8	1			
Chromium	EPA 200.8	0.01			
Cobalt	EPA 200.8	0.01			
Copper	EPA 200.8	0.001			
Iron	EPA 200.8	0.02			
Lead	EPA 200.8	0.0003			
Magnesium	EPA 200.7	1			
Manganese	EPA 200.8	0.001			
Molybdenum	EPA 200.8	0.005			
Nickel	EPA 200.8	0.002			
Potassium	EPA 200.7	1			
Selenium	EPA 200.8	0.001			
Silver	EPA 200.8	0.0002			
Sodium	EPA 200.7	1			

[50] Requested reporting limits are either the required reporting limit from DEQ [2017], DEQ [2014] (for nutrients), or the lowest reporting limit previously provided by the analytical laboratory, whichever is lower.

[51] Vadose zone water samples were laboratory filtered.

Analyte	Requested Method	Requested Reporting Limit (mg/L)[50]	Holding Time (days)	Bottle	Preservative[51]
Uranium	EPA 200.8	0.0002			
Vanadium	EPA 200.8	0.1			
Zinc	EPA 200.8	0.008			
Mercury	EPA 245.1	0.000005	28		

4.3 PERFORMANCE GOALS

Specific numeric concentration cleanup goals do not exist for vadose zone water COC concentrations in the SSTOU ROD [DEQ and USEPA, 1995]. The ROD specifies metal and common ion concentrations need to be monitored in vadose zone water at each waste repository to assess the mobility of contaminants from the repository sites to underlying groundwater or to the Silver Bow Creek floodplain down-gradient from any repositories. The MWRR is the only waste repository established in the SSTOU at this time.

4.4 RESULTS

Dissolved metal COC concentrations in MWRR lysimeters in 2018 are presented in Table 4-5. Concentrations of dissolved metals that are not COCs in MWRR lysimeters are presented in Table 4-6. Common ion concentrations in MWRR lysimeters are presented in **Table 4-7**.

In July 2018, sample volumes were sufficient for analyzing dissolved metals in all lysimeters (Table 4-5; Table 4-6) but sample volumes were insufficient to analyze all common ions in LYS-07 and LYS-08 (**Table 4-7**). In October 2018, sample volumes were sufficient for analysis of dissolved metals in all lysimeters (Table 4-5; Table 4-6), but insufficient for analysis of some common ions in LYS-03, LYS-04R, LYS-05, LYS-07, and LYS-08 (**Table 4-7**).

Table 4-5. Dissolved metal contaminant of concern concentrations (mg/L) in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2018.

Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
July						
LYS-01	0.003	ND	0.001[J]	0.00006[J]	ND	0.0060[J]
LYS-02	0.020	0.00004	0.010	ND	ND	0.036
LYS-03	0.005	0.00003	0.001	ND	ND	0.026
LYS-04R	0.003	0.00005	0.007	0.00012[J]	ND	0.014
LYS-05	0.020	0.00016	0.013	0.00006[J]	0.0000046[J]	0.021
LYS-06	0.005	ND	0.006	0.00006[J]	ND	0.106
LYS-07	0.006	ND	0.004	0.00011[J]	ND	0.028
LYS-08	0.117	ND	0.002	ND	ND	0.016
October						
LYS-01	0.004	ND	0.0008[J]	0.00009[J]	0.0000020[J]	0.0044[J]
LYS-02	0.024	0.00007	0.012	0.00024[J]	0.0000062	0.014
LYS-03	0.231	ND	0.003	0.00005[J]	0.0000034[J]	0.0030[J]
LYS-04R	0.012	0.00005	0.005	0.00009[J]	0.0000034[J]	0.0058[J]
LYS-05	0.021	0.00014	0.010	0.00003[J]	0.0000058	0.012
LYS-06	0.003	ND	0.002	0.00003[J]	0.0000026[J]	0.0041[J]
LYS-07	0.007	0.00004	0.008	0.0005	ND	0.012
LYS-08	0.006	ND	0.002	ND	0.0000018[J]	0.0024[J]

ND Not detected at method detection limit.

J Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).

Table 4-6. Dissolved metal (not contaminants of concern) concentrations (mg/L) in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2018.

Site	Dissolved Metals														
	Al	**Sb**	**Ba**	**Be**	**B**	**Cr**	**Co**	**Fe**	**Mn**	**Mb**	**Ni**	**Se**	**Ag**	**U**	**V**
July															
LYS-01	ND	0.0001[J]	0.032	ND	0.054[J]	ND	ND	ND	0.0003[J]	0.0034[J]	ND	0.005	ND	0.0584	0.002[J]
LYS-02	ND	0.0007	0.01	ND	0.6	0.0017[J]	ND	ND	ND	0.039	ND	0.02	ND	1.1300	0.028[J]
LYS-03	ND	0.00021[J]	0.021	ND	0.1[J]	0.0006[J]	ND	ND	0.007	0.0039[J]	0.0007[J]	0.015	ND	0.1210	0.023[J]
LYS-04R	0.004[J]	0.0006	0.152	ND	0.2	0.0006[J]	0.00025[J]	ND	0.052	0.018	0.004	0.006	ND	0.0206	0.093[J]
LYS-05	ND	0.0014	0.013	ND	1.8	0.0038[J]	0.00009[J]	ND	0.005	0.023	0.0007[J]	0.006	ND	1.6800	0.0047[J]
LYS-06	ND	0.00026[J]	0.029	ND	0.1	0.0003[J]	0.00014[J]	ND	0.003	0.008	0.0004[J]	0.0005[J]	ND	0.0040	0.022[J]
LYS-07	ND	0.00035[J]	0.007	ND	0.2	0.0016[J]	0.00031J	ND	0.001	0.105	0.0004[J]	0.002	ND	0.2140	0.0048[J]
LYS-08	0.003[J]	0.0006	0.037	ND	0.2	0.0012[J]	ND	ND	0.002	0.019	ND	0.00024[J]	ND	0.0019	0.076[J]
October															
LYS-01	ND	0.0001[J]	0.044	ND	0.059[J]	ND	ND	ND	0.003	0.0049[J]	ND	0.004	ND	0.0814	0.0024[J]
LYS-02	ND	0.0009	0.015	ND	0.7	0.0026[J]	0.00013[J]	0.003[J]	ND	0.054	0.0011[J]	0.035	ND	1.6600	0.039[J]
LYS-03	ND	0.0009	0.061	ND	0.3	0.0035[J]	0.00012[J]	ND	0.003	0.042	ND	0.001	ND	0.0063	0.1
LYS-04R	ND	0.0007	0.117	ND	0.3	0.0008[J]	0.00018[J]	ND	0.02	0.014	0.0020[J]	0.005	ND	0.0252	0.046[J]
LYS-05	ND	0.0016	0.014	ND	1.6	0.003[J]	ND	ND	0.0008[J]	0.026	0.0006[J]	0.004	ND	1.6000	0.0055[J]
LYS-06	ND	0.00028[J]	0.047	ND	0.2	0.0004[J]	ND	ND	0.0005[J]	0.0047[J]	0.0002[J]	0.00046[J]	ND	0.0046	0.019[J]
LYS-07	ND	0.00041[J]	0.009	ND	0.3	0.0019[J]	0.0009[J]	ND	0.001	0.111	0.0003[J]	0.002	ND	0.3700	0.0054[J]
LYS-08	ND	0.00023[J]	0.01	ND	0.1	0.006[J]	ND	0.003[J]	0.0008[J]	0.008	0.0008[J]	0.019	ND	0.2530	0.037[J]

ND Not detected at method detection limit.

J Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).

Table 4-7. Common ion concentrations (mg/L) in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2018.

Site	Alkalinity (as CaCO3)	Bicarbonate Alkalinity (as HCO3)	Calcium	Chloride	Hardness (as CaCO3)	Magnesium	Potassium	Sodium	Sulfate
July									
LYS-01	130	160	79	28	266	17	3	30	184
LYS-02	570	690	353	70	1770	215	2	2310D	6110D
LYS-03	320	380	286	51	1320	147	6	145	1290
LYS-04R	350	430	120	28	504	49	29	22	173
LYS-05	280	350	436	6	1620	128	20	1140	4000
LYS-06	130	150	31	6	98	5	0.09J	69	108
LYS-07	DNA	DNA	226	65	788	54	10	550	1760
LYS-08	DNA	DNA	31	0.23J	102	6	2	46	21
October									
LYS-01	160	190	103	40	345	22	4	35	231
LYS-02	870	1100	457	177	2430	313	3	3270D	7940D
LYS-03	DNA	DNA	52	0.21J	177	12	2	70	102
LYS-04R	DNA	DNA	135	28	575	58	30	16	281
LYS-05	DNA	DNA	418	7	1550	124	22	1200	4170
LYS-06	120	150	51	21	167	9	0.12J	55	145
LYS-07	DNA	DNA	232	66	805	55	10	547	1890D
LYS-08	DNA	DNA	326	67	1790	236	7	256	2060D

DNA Not sampled because of insufficient sample volume.

D Result obtained from analysis of diluted sample.

J Estimated because: (1) result is between method detection limit and analytical reporting limit, or (2) relative percent difference of associated field sample and duplicate pair was above project-specific data quality objective (25%).

Table 4-8. Frequency of samples with contaminant of concern concentrations below analytical reporting limits for samples collected from lysimeters near the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2010-2018.

Lysimeter	Samples						
	Total[52]	Number with concentrations below reporting limit					
		Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
LYS-01	18	8	18	5	18	18	9
LYS-02	18	0	5	0	17	10	5
LYS-03	13	0	11	0	13	10	8
LYS-04R	2	0	0	0	2	2	1
LYS-05	18	0	0	0	18	12	0
LYS-06	18	8	17	0	17	16	9
LYS-07	18	3	8	0	17	11	6
LYS-08	12	0	10	0	12	10	7

[52] Because of insufficient sample volumes during some sample periods, mercury was not analyzed in all samples at LYS-03, LYS-07, and LYS-08. The total number of mercury samples at those lysimeters were: LYS-03 (12 mercury samples), LYS-07 (14 mercury samples), and LYS-08 (11 mercury samples).

4.4.1 Arsenic

In 2018, arsenic concentrations in each MWRR lysimeter were generally similar to previous years, except for LYS-03 which was higher than in prior monitoring periods (0.231 mg/L) in October 2018 (Figure 4-2). Also, LYS-08 was high in July 2018 (0.117 mg/L) in July 2018 (Figure 4-2). Arsenic concentrations appear to be increasing over time at LYS-03 and decreasing over time at LYS-02 (Figure 4-2).

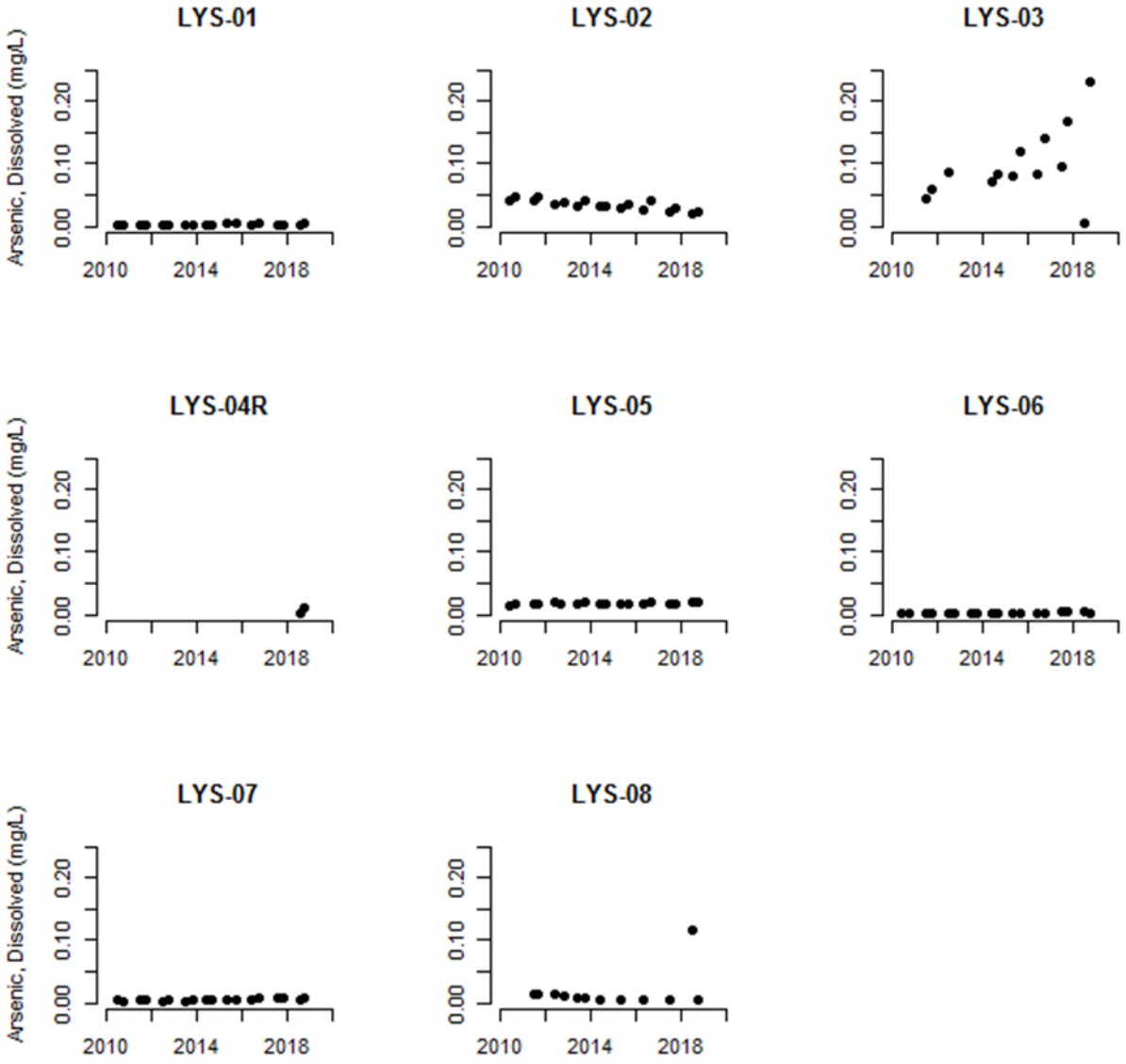

Figure 4-2. Arsenic concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2010–2018).

4.4.2 Cadmium

In 2018, cadmium concentrations in each MWRR lysimeter were similar to prior years (Figure 4-3). No lysimeters appeared to have increasing cadmium concentrations (Figure 4-3). Cadmium concentrations in LYS-05 appear to be decreasing over time (Figure 4-3).

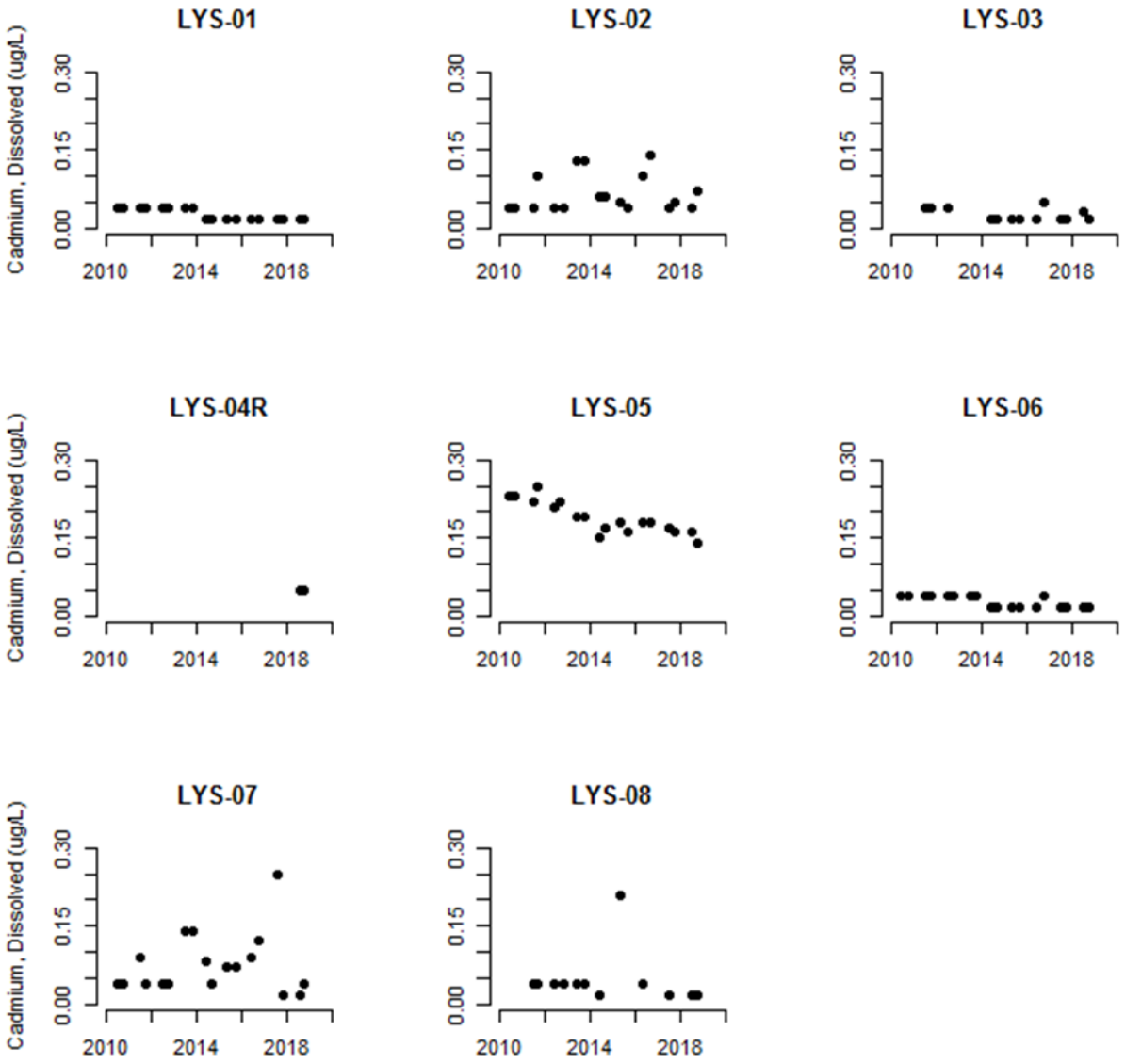

Figure 4-3. Cadmium concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2010–2018).

4.4.3 Copper

In 2018, copper concentrations in each MWRR lysimeter were similar to previous years (Fi9gure 4-4). Copper concentrations appear to be increasing over time in LYS-02 (Figure 4-4). No other lysimeter demonstrated any evidence of an increasing trend (Figure 4-4).

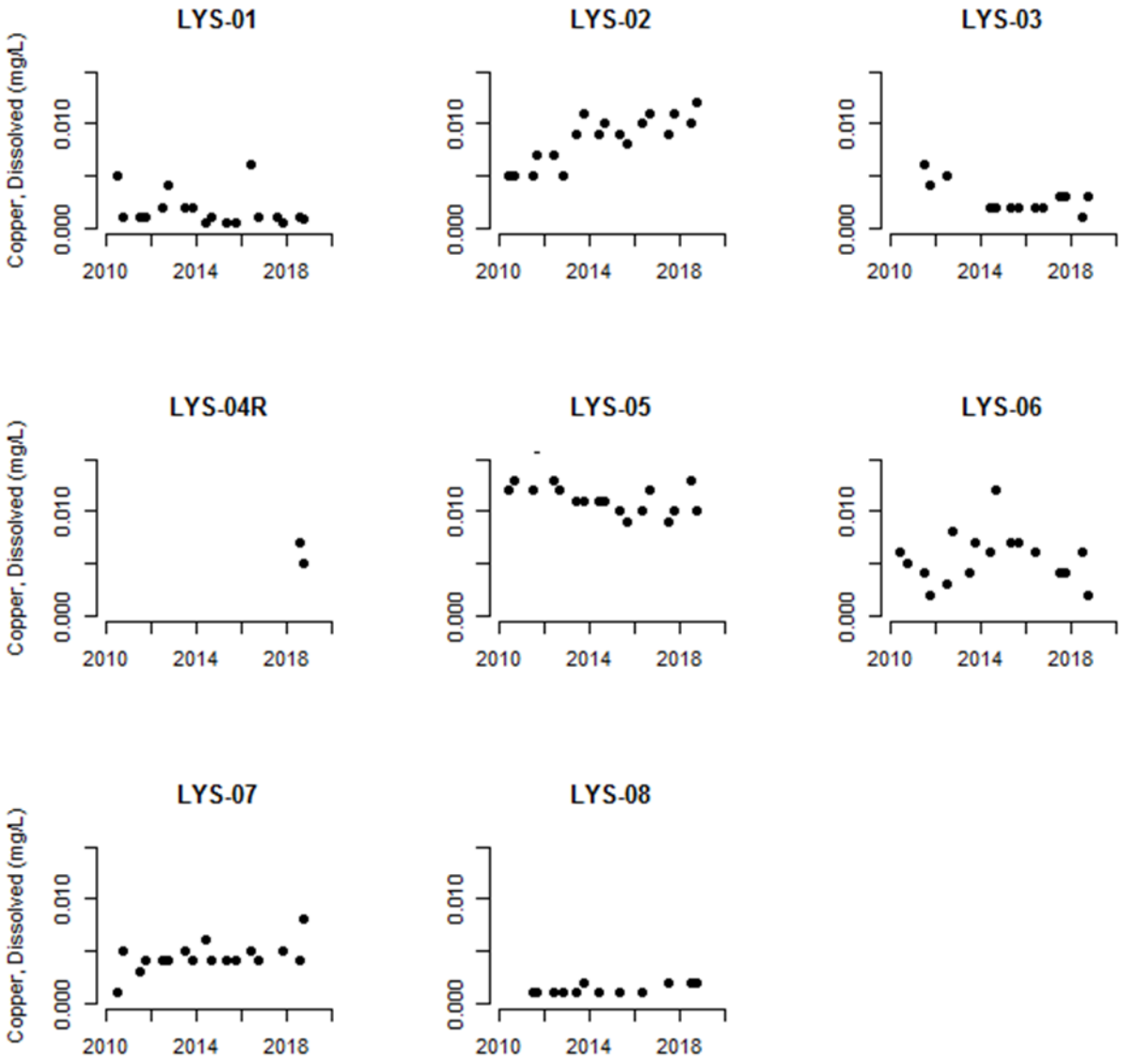

Figure 4-4. Copper concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2010–2018).

4.4.4 Lead

In 2018, lead concentrations in each MWRR lysimeter were similar to previous years (Figure 4-5). No lysimeters appeared to have increasing lead concentrations (Figure 4-5). All 2018 samples, except LYS-07 in October, had lead concentrations below the analytical reporting limit (Figure 4-5). Of the 117 samples collected in these lysimeters since 2010, 114 samples (97 percent) have had lead concentrations below analytical reporting limits (Figure 4-5).

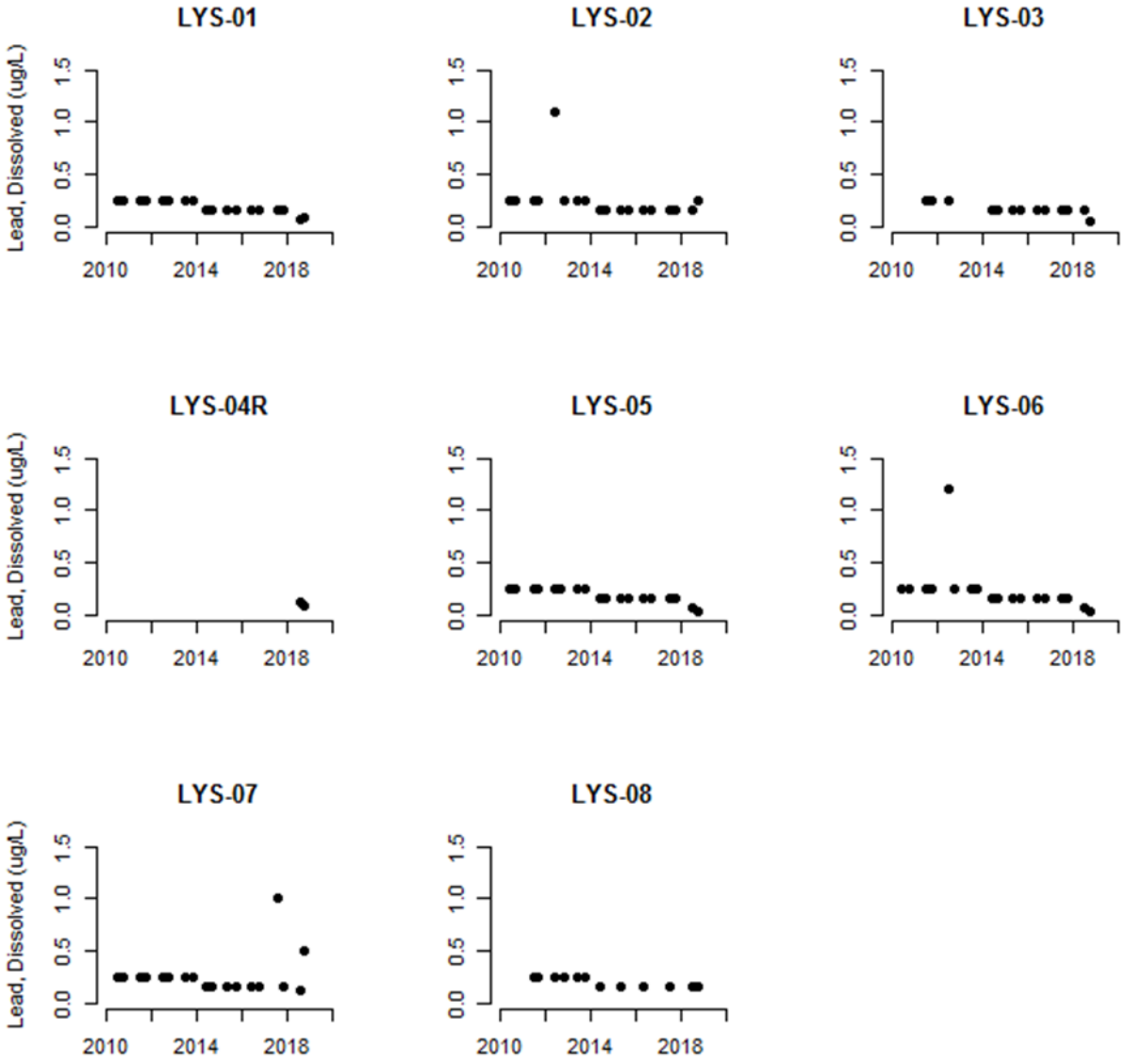

Figure 4-5. Lead concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2010–2018).

4.4.5 Mercury

In 2018, mercury concentrations in each MWRR lysimeter were similar to previous years (Figure 4-6). No lysimeters appeared to have increasing mercury concentrations over time (Figure 4-6). Except for two samples (LYS-02 and LYS-05 in October), all of the 2018 samples had mercury concentrations below the analytical reporting limit (Figure 4-6). Of the 111 samples collected in these lysimeters since 2010, 89 samples (80 percent) have had mercury concentrations below analytical reporting limits (Figure 4-6).

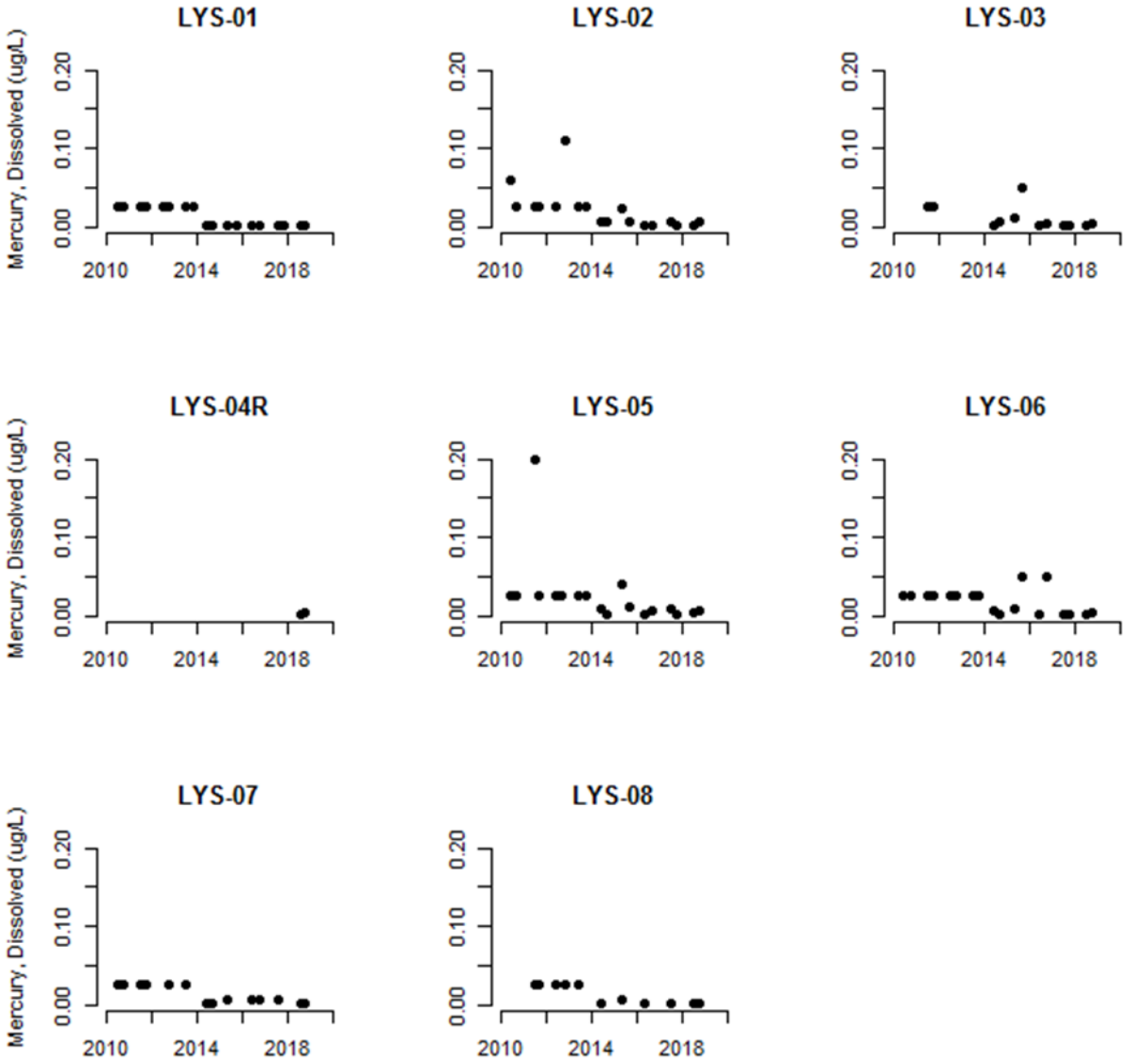

Figure 4-6. Mercury concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2010–2018).

4.4.6 Zinc

In 2018, zinc concentrations in each MWRR lysimeter were similar to previous years with the exception of LYS-06, which spiked at 0.106 mg/L in July 2018 (Figure 4-7). No lysimeters appeared to have increasing zinc concentrations over time (Figure 4-7).

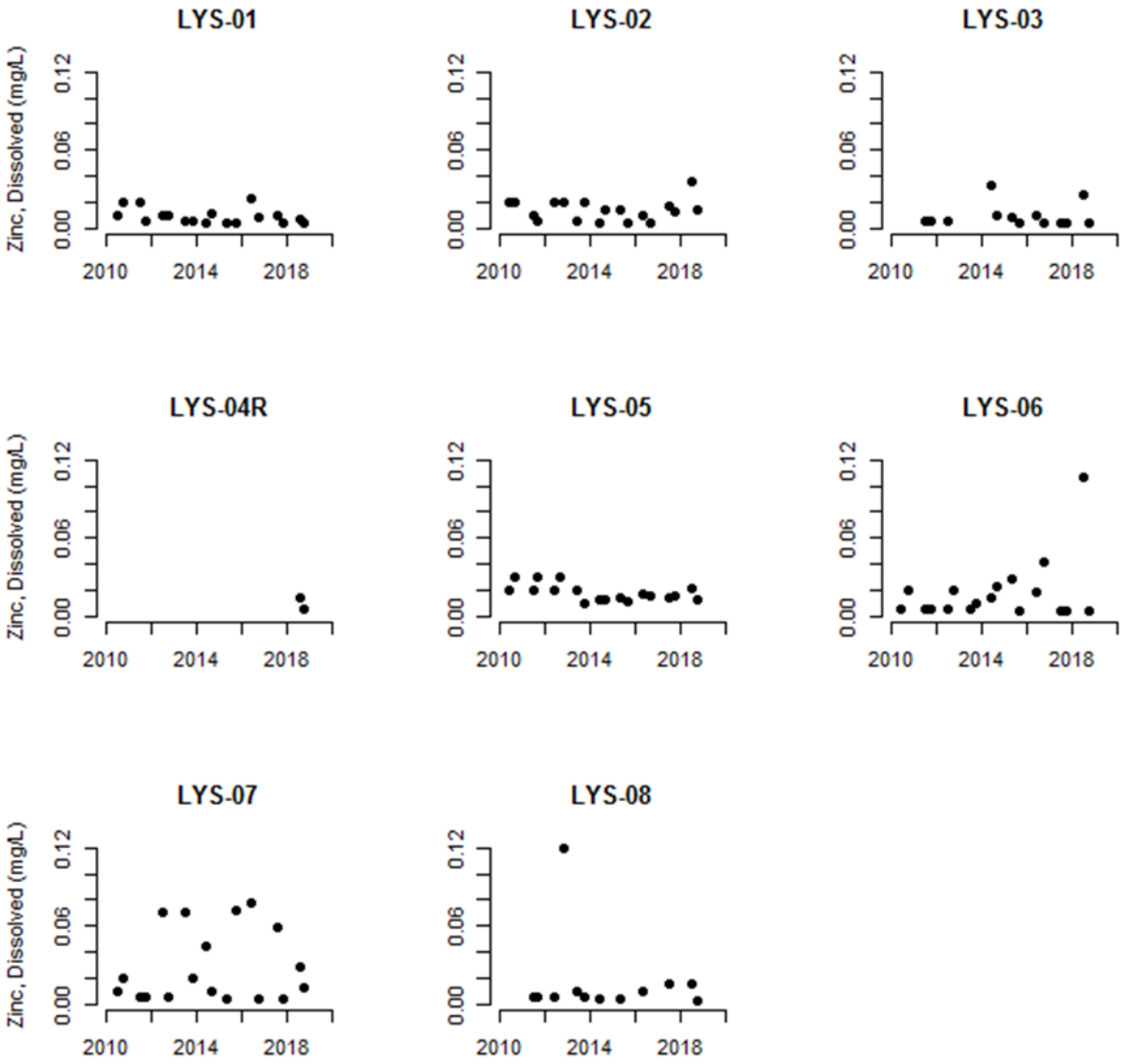

Figure 4-7. Zinc concentrations in lysimeters of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit (2010–2018).

4.5 DISCUSSION

4.5.1 Contaminants of Concern

Vadose zone sampling is conducted to provide advance notice in the event of COC releases from the repository which might threaten groundwater or surface water. In general, each COC concentration in each lysimeter was similar in 2018 to previous monitoring years, which indicates little inter-annual variability in vadose zone COC concentrations in the MWRR

Based on the 9-year time series at each lysimeter, COC concentrations generally do not appear to be increasing with the exceptions of copper at LYS-02 and arsenic at LYS-03. However, extrapolating temporal trends in COC concentrations from the 2010 to 2018 time period to more extended time periods (e.g., through 2030) may not be appropriate. Concentrations in both lysimeters will be monitored in future years to look for continued increasing trends.

4.5.2 Data Validation

Quality assurance and quality control results for vadose zone water are combined with groundwater (see Sections 3.4.3 and 3.5.3).

5.0 MACROINVERTEBRATES[53]

5.1 INTRODUCTION

Silver Bow Creek is a tributary to the Clark Fork River that extends from Butte, Montana approximately 23 miles downstream to the Warm Springs Ponds just north of Opportunity, Montana. Silver Bow Creek was impacted by mining waste and municipal sewage inputs from the 1870s through the 1980s. The earliest impacts resulted from underground mining and included waste rock, slag, and mill tailings that were deposited directly into the stream. In 1908 a major flood redistributed the waste rock and tailings downstream throughout the channel and floodplain. Mining efforts in the area shifted to open-pit operations with the 1955 opening of the Berkeley Pit mine near Butte. Open-pit mining ceased in the Berkeley Pit in 1982; however, copper precipitate is currently mined from the waters of the Berkeley Pit and mining continues in the nearby Continental Pit (molybdenum and copper). The ancestral headwaters of Silver Bow Creek have now been entirely subsumed into the Berkeley and Continental Pits and the city of Butte metro sewer system.

Silver Bow Creek and its adjacent floodplain have undergone major remediation that included excavation and removal of tailings and impacted soils from the floodplain, replacement of the removed tailings with local fill material, seeding and planting of vegetation, and reconstruction of the stream channel. Major remediation was completed in all subareas during 2017, but minor remedial actions occurred in Subareas 1 and 2 to remove some remnant tailings. The portion of the creek and its adjacent floodplain undergoing remediation is designated the Streamside Tailings Operable Unit (SSTOU) and is divided into four subareas. Remediation has already been accomplished in some subareas. A plan was established to monitor several factors as remediation progressed including surface water, instream sediments, geomorphology, groundwater, and aquatic biologic resources. Aquatic invertebrates are major components of the biota present in Silver Bow Creek and thus play important roles in the comprehensive monitoring plan. General performance goals have been stated for aquatic invertebrates in Silver Bow Creek: the assemblages should reflect a "balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region" [Karr and Dudley, 1981].

This report describes the analysis of a subset of the aquatic invertebrate monitoring program, specifically the samples collected from Silver Bow Creek in 2018. The benthic invertebrate fauna were analyzed with a number of biointegrity metrics which were combined into three indices, the Montana Foothills and Valley Prairies (MVFP) bioassessment index which was developed to evaluate the biological integrity of montane streams [Bollman, 1998], a modification of the Hilsenhoff Biotic Index [Hilsenhoff, 1987], which has a long history in biomonitoring studies, and the metals tolerance index [McGuire, 2009], which is specifically designed to examine metal

[53] Chapter 5 was prepared by B. Kerans and W. Bollman of Rhithron Associates Inc. (Missoula, Montana) with minor editing and formatting by RESPEC.

pollution. In addition to these indices, the sites were also evaluated using the Montana O/E model where O is the probability of capture for taxa collected in a sample and E is the probability of capture for taxa expected at a site of similar type that has not been negatively impacted by environmental stressors. Site-specific narratives were used to gain information about probable stressors to water quality and habitat integrity. These narratives were based on taxonomic and functional composition of the benthic fauna.

5.2 METHODS

5.2.1 Sampling

Aquatic invertebrates were sampled at 16 sites in the Silver Bow Creek watershed (Table 5-1) from August 29-30, 2017. Samples were delivered to Rhithron Associates (Missoula, Montana) for processing and identification.

Table 5-1. Macroinvertebrate sampling locations in the Streamside Tailings Operable Unit, September 17-21, 2018.

Site ID	Site Location	Location (GPS coordinates, NAD 83)	
		Latitude	Longitude
SS-01	Blacktail Creek at Father Sheehan Park	45.98523	-112.50772
SS-05A	Silver Bow Creek above Butte Reduction Works	45.99458	-112.55146
SS-06G	Silver Bow Creek above Butte WWTP	45.99650	-112.56300
SS-07	Silver Bow Creek below Butte WWTP	45.99666	-112.56381
SS-08	Silver Bow Creek at Rocker	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	46.00375	-112.66084
SS-11C	Silver Bow Creek above Browns Gulch	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	46.00342	-112.70252
SS-13	Silver Bow Creek in Reach L	46.00647	-112.70394
SS-14D	Silver Bow Creek at Miles Crossing	46.01143	-112.72229
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	46.02096	-112.78802
SS-15B	Silver Bow Creek below German Gulch	46.02216	-112.79064
SS-15G	German Gulch near confluence	46.02170	-112.79029
SS-16B	Silver Bow Creek in Reach P near Fairmont	46.05494	-112.79611
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	45.98523	-112.50772

5.2.2 Laboratory Analysis

Subsamples of 500 (±10 percent) organisms were obtained: Caton sub-sampling devices [Caton, 1991], divided into 30 grids, each approximately six cm by six cm were used. Each individual

sample was thoroughly mixed in its jar(s), poured out and evenly spread into the Caton tray, and individual grids were randomly selected. The contents of each grid were examined under stereoscopic microscopes (Leica S6) using 10x-30x magnification. All aquatic invertebrates from each selected grid were sorted from the substrate and placed in 80 percent ethanol for subsequent identification. Grid selection, examination, and sorting continued until at least 500 (±10 percent) organisms were sorted. The final grid was completely sorted of all organisms. All unsorted sample fractions were retained and stored at the Rhithron laboratory.

Organisms were individually examined by certified taxonomists, most using 10x-80x stereoscopic dissecting scopes (Leica S8E) and identified to the lowest practical level consistent with DEQ [DEQ, 2012b] data requirements, using appropriate published taxonomic references and keys. After slide-mounting, representative specimens of midges and worms were further examined at 200x to 1000x magnification using Leica DM1000 or Olympus BX 51 compound microscope.

Identification, counts, life stages, and information about the condition of specimens were recorded on electronic bench sheets. Organisms that could not be identified to the taxonomic targets because of immaturity, poor condition, or lack of complete, current, and/or regionally-applicable published keys were left at appropriate taxonomic levels that were coarser than those specified. To obtain accuracy in richness measures, these organisms were designated as "not unique" if other specimens from the same group could be taken to target levels. Organisms designated as "unique" were those that could be definitively distinguished from other organisms in the sample. Identified organisms were preserved in 80 percent ethanol in labeled vials or, when appropriate, slide mounted and archived at the Rhithron laboratory.

5.2.3 Quality Assurance Systems

Quality control (QC) procedures for initial sample processing and subsampling involved checking sorting efficiency. These checks were conducted on two of the samples by independent technicians who microscopically re-examined 100 percent of sorted substrate from each sample. Quality control procedures for each sample proceeded as follows:

The quality control technician poured the sorted substrate from a processed sample out into a Caton tray. Portions of substrate were systematically removed and re-examined until 100 percent of the substrate was re-sorted. All organisms that were missed were counted and this number was added to the total number obtained in the original sort. Sorting efficiency was evaluated by applying the following calculation:

$$SE = \frac{n_1}{n_1 + n_2} \times 100$$

where: SE is the sorting efficiency (percent), n_1 is the total number of specimens in the first sort, and n_2 is the total number of specimens obtained in the second sort.

Quality control procedures for taxonomic determinations of invertebrates involved checking accuracy, precision and enumeration. Two samples were randomly selected, and all organisms re-identified and counted by an independent taxonomist. Taxa lists and enumerations were compared by calculating a Bray-Curtis similarity statistic [Bray and Curtis, 1957] for each selected sample. The percent taxonomic disagreement (PTD) and percent difference in enumeration (PDE) parameters were also calculated. Routinely, discrepancies between the original identifications and the QC identifications are discussed among the taxonomists, and necessary rectifications to the data are made. Discrepancies that cannot be rectified by discussions are routinely sent out to taxonomic specialists for identification. However, taxonomic certainty for identifications in this project was high and no external verifications were necessary.

5.2.4 Data Analysis

Taxa lists and counts for each sample were constructed. Approximately 72 standard metric expressions of taxonomic, functional, and behavioral characteristics as well as tolerance attributes were calculated, using a customized laboratory information system application. Aquatic invertebrate metrics included the Hilsenhoff Biotic Index (HBI), with tolerance values and impact threshold modified for Montana fauna [McGuire, 2010], and the Metals Tolerance Index (MTI) which was developed by McGuire [2010] for the Clark Fork River watershed. Table 5-2 shows scoring criteria applied by McGuire for these metrics.

Table 5-2. Hilsenhoff Biotic Index (HBI) and Metals Tolerance Index (MTI): metrics modified and developed by McGuire [2010] for assessing biological integrity in the Clark Fork River basin.

Metric	"no impact" ----------"severe impact"						
HBI	<4.0	4.0 – 4.5	4.6 – 5.1	5.2 – 5.7	5.8 – 6.3	6.4 – 6.9	>6.9
MTI	<4.0	4.0 – 4.9	5.0 – 5.9	6.0 – 6.9	7.0 – 7.9	8.0 – 8.9	>8.9

In addition to these metrics, the sites were also evaluated using the Montana O/E model where O is the probability of capture for taxa collected in a sample and E is the probability of capture for taxa expected at a site of similar type that has not been negatively impacted by environmental stressors. Thus, the O/E model was used to test how far a given macroinvertebrate community (O) deviates from those sampled at reference sites (E). To derive the O/E ratio, the model application R code [DEQ, 2012b] was used. The O/E index varies between zero (no organisms are collected) and one (the observed number of taxa is equal to the number of taxa expected at reference sites). In Montana, the O/E index is scored as pass/fail. In montane and transition zones, an O/E score at least 0.90 is a "pass" and a score of less than 0.90 is a "fail." An explanation of the theory and processes of the model is included in Feldman and Jessup [2012].

A multimetric index (Montana Valley and Foothill Prairies (MVFP) bioassessment index) was also used to examine the data [Bollman, 1998]. Six calculated metrics (Table 5-3) are the index components. The MVFP index is a quantitative measure which may be useful in assessing progress toward attainment of the general remediation goal of a "balanced, integrated, adaptive

community" of aquatic invertebrates, as envisioned by Karr and Dudley [1981]. To arrive at an MVFP index score and impairment classification, each component metric value was calculated, based on the taxonomic, functional, and tolerance attributes of the aquatic invertebrate assemblage, and categorical scores are assigned to each metric. Metric scores were summed for a total score, which was expressed as a percentage of the maximum total score. The percentages were then used to classify sites into impairment categories according to the following scenario: at least 83 percent was classified as "unimpaired"; 54-83 percent was classified as "slightly impaired"; 21-50 percent was classified as "moderately impaired"; and less than or equal to 17 percent was classified as "severely impaired".

We used graphical methods to compare all index scores among sites for 2018. In addition, we also examined temporal changes in the assessment tools within sites.

Table 5-3. Component metrics and scoring scheme for the aquatic invertebrate-based Montana Valley and Foothill Prairies (MVFP) bioassessment index [Bollman, 1998].

Metric	Metric score			
	3	2	1	0
	Metric values			
Ephemeroptera richness	>5	5 – 4	3 – 2	<2
Plecoptera richness	>3	3 – 2	1	0
Trichoptera richness	>4	4 – 3	2	<2
Number of sensitive taxa	>3	3 – 2	1	0
Percent filterers	0 - 5	5.01 – 10	10.01 – 25	>25
Percent tolerant taxa	0 - 5	5.01 - 10	10.01 - 35	>35

5.2.5 Ecological Interpretations: Approach

Narrative interpretations of taxonomic and functional composition of invertebrate assemblages were used to reveal the probable stressors in the SSTOU. Often canonical procedures are used for stressor identification; however, the substantial data required for such procedures (e.g., surveys of habitat, historical and current data related to water quality, land use, point and non-point source influences, soils, hydrology, geology) were not readily available for this study. Instead our narrative interpretations are based on demonstrated associations between assemblage components and habitat and water quality variables gleaned from the published literature, the authors' own research and professional judgment, and the research and professional judgment of other expert sources. We did not refer to habitat assessments or any other SSTOU data while crafting these narratives.

Attributes of invertebrate taxa that are well substantiated in diverse literature and that are generally accepted by regional aquatic ecologists as evidence of water quality and instream and reach-scale habitat conditions were used. The approach to this analysis uses some assemblage attributes that are interpreted as evidence of water quality and other attributes that are

interpreted as evidence of habitat integrity. To arrive at impairment classifications, attributes are considered individually, so information is maximized by not relying on a single cumulative score, which may mask stress on the biota. Such an approach also minimizes the possibility of using inappropriate assessment strategies when the biota at a site is atypical of "characteristic" sites in a region. Below we describe the invertebrate attributes that were used and their relationships to water quality and habitat conditions.

Mayfly taxa richness, the Hilsenhoff Biotic Index (HBI) value [Hilsenhoff, 1987], the richness and abundance of hemoglobin-bearing taxa and the richness of pollution sensitive taxa are often used as indicators of water quality. Mayfly taxa richness has been demonstrated to be significantly correlated with chemical measures of dissolved oxygen, pH, and conductivity (e.g., Fore et al. [1996]; Wisseman [1996]; Bollman [1998]). The HBI has a long history of use and validation [Cairns and Pratt, 1993; Smith and Tran, 2010; Johnson and Ringler, 2014]. In Montana foothills, the HBI was demonstrated to be significantly associated with conductivity, pH, water temperature, sediment deposition, and the presence of filamentous algae [Bollman, 1998]. Nutrient enrichment in Montana streams often results in large crops of filamentous algae [Watson, 1988]. Thus, in these samples, when macroinvertebrates associated or dependent on filamentous algae (e.g., LeSage and Harrison [1980]; Anderson [1976]) are abundant, the presence of filamentous algae and nutrient enrichment are also suspected. Pollution sensitive taxa exhibit intolerance to a wide range of stressors (e.g., Wisseman [1996]; Hellawell [1986]; Friedrich [1990]; Barbour et al. [1999]), including nutrient enrichment, acidification, thermal stress, sediment deposition, habitat disruption, and others. These taxa are expected to be present in predictable numbers in functioning montane and foothills streams (e.g., Bollman [1998]). Although the abundance of invertebrates in Hess samples can be highly variable, reflecting the patchy and dynamic areal distribution of the benthos in stony-bottomed streams, McGuire's thresholds for environmental perturbation [McGuire, 2010] are cited as evidence of enrichment or impairment.

The absence of invertebrate groups known to be sensitive to metals and the Metals Tolerance Index [Bukantis, 1998] are considered signals of possible metals contamination. Metals sensitivity for some groups, especially the heptageniid mayflies, is well-known (e.g., Kiffney and Clements [1994]; Clements [1999]; Clements [2004]; Montz et al. [2010]; Iwasaki et al. [2013]). In the present approach, the absence of these groups in environs where they are typically expected to occur is considered a signal of possible metals contamination, but only when combined with a measure of overall assemblage tolerance of metals. The Metals Tolerance Index ranks taxa according to their sensitivity to metals. Weighting taxa by their abundance in a sample, assemblage tolerance is estimated by averaging the tolerance of all sampled individuals.

The richness and abundance of cold stenotherm taxa [Clark, 1997] and calculation of the temperature preference of the macroinvertebrate assemblage [Brandt, 2001] can predict the thermal characteristics of the sampled site. Hemoglobin-bearing taxa are also indicators of warm water temperatures [Walshe, 1947], since dissolved oxygen is directly associated with water temperature; oxygen concentrations can also vary with the degree of nutrient enrichment. Increased temperatures and high nutrient concentrations can, alone or in concert, create conditions favorable to hypoxic sediments, habitats preferred by hemoglobin-bearers.

Characteristics of the macroinvertebrate assemblages can also reveal the condition of instream and streamside habitats. Stress from sediment deposition is evaluated by caddisfly richness and by "clinger" richness [Kleindl, 1995; Bollman, 1998; Karr and Chu, 1999; Wagenhoff et al., 2012; Leitner et al., 2015]. We also used two indices to examine the presence of fine sediment. The first is an index developed by Relyea et al. [2000]. We include this index for comparative purposes because it has been used in past reports. It uses habitat associations of the biota to characterize the assemblage. The index, which we call the FSBI-2000, varies between one and 10.5 with lower scores indicating assemblages that are tolerant of fine sediment and higher scores indicating assemblages that are intolerant of fine sediment. The FSBI-2000 should now be replaced by a newer index. Relyea et al. [2012] developed a new index that is also called a fine sediment biotic index (we refer to this index as the FSBI-2012). This index was developed based on data from benthic macroinvertebrate assemblages and substrate particle size data collected from 1,139 streams in the northwestern U.S. Taxa were given an FSBI-2012 score based on their relationship to fine particles. The FSBI-2012 varies between zero and 400 with high scores indicating habitats with fewer fine sediments. The interpretations of these indices are modified in this report, based on the authors' professional judgments, to more effectively characterize the SSTOU in the sampled reaches. In addition, characteristics of assemblages can suggest whether other disturbances might influence stream-side vegetation, if disturbances other than sedimentation could influence stream fauna, or if stream bottoms have diverse habitats that support diverse invertebrate assemblages.

Finally, the functional characteristics of macroinvertebrate assemblages are based on the morphology and behaviors associated with feeding, and they are interpreted in terms of the River Continuum Concept [Vannote et al., 1980] in the narratives. Alterations from predicted patterns in montane and foothills streams may be interpreted as evidence of water quality or habitat disruption. For example, shredders and the microbes they depend on are sensitive to modifications of the riparian zone [Plafkin et al., 1989].

5.3 RESULTS

5.3.1 Quality Assurance Systems

Results of internal quality control procedures for subsampling and taxonomy for aquatic invertebrate samples are given in Table 5-4. Sorting efficiency averaged 97.4 percent for the quality control samples in this project. The similarity between original identifications and enumerations for the two quality control samples averaged 97.3 percent. Percent taxonomic disagreement (PTD) averaged 3.4 percent, and the percent difference in enumeration (PDE) averaged 0.7 percent. Rhithron's internal quality standards, consistent with industry norms, are: for sorting efficiency, at least 95 percent; for Bray-Curtis similarity, at least 95 percent; for PTD, not more than 5 percent; and for PDE, not more than 5 percent [Stribling et al., 2003].

Table 5-4. Results of quality assurance systems parameters for aquatic invertebrate samples. Silver Bow Creek watershed, September 17-21, 2018.

Site ID	Station name	Sorting efficiency (%)	Bray-Curtis similarity (%)	Percent taxonomic disagreement (%)	Percent difference in enumeration (%)
SS-01	Blacktail Creek at Father Sheehan Park				
SS-05A	Silver Bow Creek above Butte Reduction Works	98.54			
SS-06G	Silver Bow Creek above Butte WWTP				
SS-07	Silver Bow Creek below Butte WWTP				
SS-08	Silver Bow Creek at Rocker				
SS-10A	Silver Bow Creek above Sand Creek		96.78	4.18	1.01
SS-11C	Silver Bow Creek above Browns Gulch	96.29			
SS-11D	Silver Bow Creek below Browns Gulch				
SS-13	Silver Bow Creek in Reach L				
SS-14D	Silver Bow Creek at Miles Crossing				
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)				
SS-15B	Silver Bow Creek below German Gulch		97.85	2.60	0.47
SS-15G	German Gulch near confluence				
SS-16B	Silver Bow Creek in Reach P near Fairmont				
SS-17D	Silver Bow Creek below Stewart St Opportunity				
SS-19	Silver Bow Creek at Frontage Road				

5.3.2 Bioassessment

Values for the six MVFP aquatic invertebrate metrics are shown in Table 5-5. MVFP scores and associated impairment classifications are given in Table 5-6. Figure 5-1 graphs the 2018 MVFP scores, as percent of maximum possible score, for all sites in the study. One site (Site SS-15G; German Gulch near confluence) was rated "non-impaired." Site SS-08 (Silver Bow Creek at Rocker) was rated "severely" impaired. All other sites were rated "moderately" impaired. Site SS-15G had higher mayfly, stonefly and pollution-sensitive taxa (none were collected at any other site) diversities than any other site. In addition, Site SS-15G had the lowest percentage of pollution-tolerant taxa than any other site. The severely impaired site (Site SS-08) exhibited low

mayfly, stonefly and pollution sensitive taxa richnesses combined with high percentages of filterers and pollution-tolerant organisms. Interestingly, the sites with the lowest MVFP scores that were still given a "moderate" rating (22.2 percent at Sites SS-05A, SS-05G, SS-07, SS-10A, and SS-11C) were located upstream and downstream of Site SS-08 and differed from SS-08 by having slightly fewer pollution-tolerant organisms. Trichoptera diversity was typically high regardless of the overall MVFP score.

The O/E metric classified all sites as impaired (Table 5-6). Sites SS-15B (Silver Bow Creek below German Gulch) and SS-15G (German Gulch near confluence) had O/E scores of 0.65 and 0.77, respectively. Although these were the highest O/E scores attained in 2018, they were still below the impairment threshold of 0.90.

HBI metric values were elevated relative to the impact threshold for nutrients determined by McGuire [2010] at 10 sites in 2018 (Figure 5-2). Sites SS-15A-2, SS-15B, SS-15G, SS-16B, SS-17D, and SS-19 were below the threshold value. Interestingly, the general trend was for upstream sites to have higher HBI values than downstream sites. No sites had exceptionally high (more than 6.0) values for the HBI; only Site SS-13 had an HBI value over 5.0.

MTI metric values for seven sites (Sites SS-01, SS-05A, SS-06G, SS-07, SS-08, SS-10A, and SS-11C) were elevated relative to the impact threshold for metals determined by McGuire [2010] (Figure 5-3). Nine sites (Sites SS-11D, SS-13, SS-14D, SS-15A-2, SS-15B, SS-15G, SS-16B, SS-17D, and SS-19) generated MTI values that indicated no impact from metals contamination, according to McGuire's guidance. Again, the general pattern is for upstream sites to have higher values than the downstream sites.

Table 5-5. Montana Valley and Foothill Prairies [Bollman, 1998] metric results: Silver Bow Creek, September 17-21, 2018.

Site ID	Site Location	Metric					
		Ephemeroptera richness	Plecoptera richness	Trichoptera richness	Number of sensitive taxa	Percent filterers	Percent tolerant taxa
SS-01	Blacktail Creek at Father Sheehan Park	3	2	5	0	38	16
SS-05A	Silver Bow Creek above Butte Reduction Works	1	0	7	0	36	35
SS-06G	Silver Bow Creek above Butte WWTP	1	0	7	0	55	26
SS-07	Silver Bow Creek below Butte WWTP	1	0	8	0	42	29
SS-08	Silver Bow Creek at Rocker	1	0	8	0	56	39
SS-10A	Silver Bow Creek above Sand Creek	1	0	7	0	66	30
SS-11C	Silver Bow Creek above Browns Gulch	1	0	8	0	39	24
SS-11D	Silver Bow Creek below Browns Gulch	3	3	9	0	21	44
SS-13	Silver Bow Creek in Reach L	4	1	7	0	49	22
SS-14D	Silver Bow Creek at Miles Crossing	3	1	8	0	51	28
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	1	3	6	0	16	8.5
SS-15B	Silver Bow Creek below German Gulch	4	2	9	0	31	5.8
SS-15G	German Gulch near confluence	7	7	6	7	47	2.6
SS-16B	Silver Bow Creek in Reach P near Fairmont	2	1	9	0	22	20
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	1	2	7	0	18	8.2
SS-19	Silver Bow Creek at Frontage Road	3	2	7	0	32	17

Table 5-6. Bioassessment scores and values for selected metrics calculated for Silver Bow Creek sites: MFVP [Bollman, 1998] aquatic invertebrate biointegrity scores, expressed as percent of maximum possible score, with impairment classifications; the Hilsenhoff Biotic Index (HBI) metric values; and the metals tolerance index [McGuire, 2009] metric values. Silver Bow Creek watershed, September 17-21, 2018.

Site ID	Site Location	MVFP score (percent of maximum)	MVFP impairment classification	O/E	O/E impairment classification	HBI	MTI
SS-01	Blacktail Creek at Father Sheehan Park	38.9	moderate	0.5	impaired	4.58	4.27
SS-05A	Silver Bow Creek above Butte Reduction Works	22.2	moderate	0.3	impaired	4.90	4.69
SS-06G	Silver Bow Creek above Butte WWTP	22.2	moderate	0.2	impaired	4.93	4.66
SS-07	Silver Bow Creek below Butte WWTP	22.2	moderate	0.2	impaired	4.76	4.71
SS-08	Silver Bow Creek at Rocker	16.7	severe	0.3	impaired	4.92	4.69
SS-10A	Silver Bow Creek above Sand Creek	22.2	moderate	0.2	impaired	4.42	4.45
SS-11C	Silver Bow Creek above Browns Gulch	22.2	moderate	0.2	impaired	4.82	4.09
SS-11D	Silver Bow Creek below Browns Gulch	38.9	moderate	0.4	impaired	4.52	3.98
SS-13	Silver Bow Creek in Reach L	38.9	moderate	0.2	impaired	5.09	3.95
SS-14D	Silver Bow Creek at Miles Crossing	33.3	moderate	0.3	impaired	4.15	3.64
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	44.4	moderate	0.3	impaired	2.53	2.6
SS-15B	Silver Bow Creek below German Gulch	50.0	moderate	0.7	impaired	2.50	2.97
SS-15G	German Gulch near confluence	83.3	non-impaired	0.8	impaired	3.50	3.81
SS-16B	Silver Bow Creek in Reach P near Fairmont	38.9	moderate	0.3	impaired	2.07	2.26
SS-17D	Silver Bow Creek below Stewart St Opportunity	44.4	moderate	0.2	impaired	1.52	2.18
SS-19	Silver Bow Creek at Frontage Road	38.9	moderate	0.2	impaired	2.77	2.71

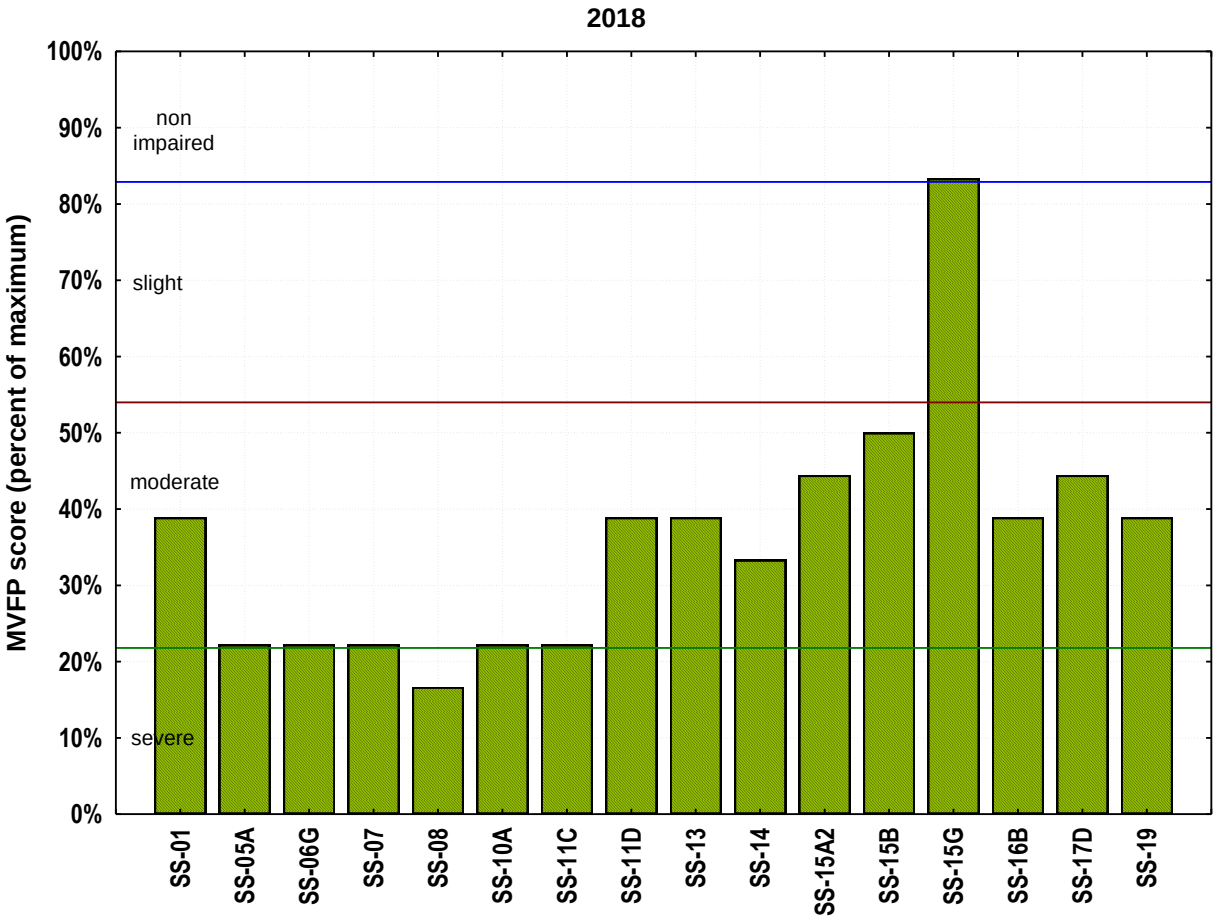

Figure 5-1. Montana Valley and Foothill Prairies (MVFP) aquatic invertebrate biointegrity scores [Bollman, 1998], expressed as percent of maximum possible score: comparison among sites. Bars are labeled with MVFP index impairment classifications. Silver Bow Creek watershed, September 17-21, 2018.

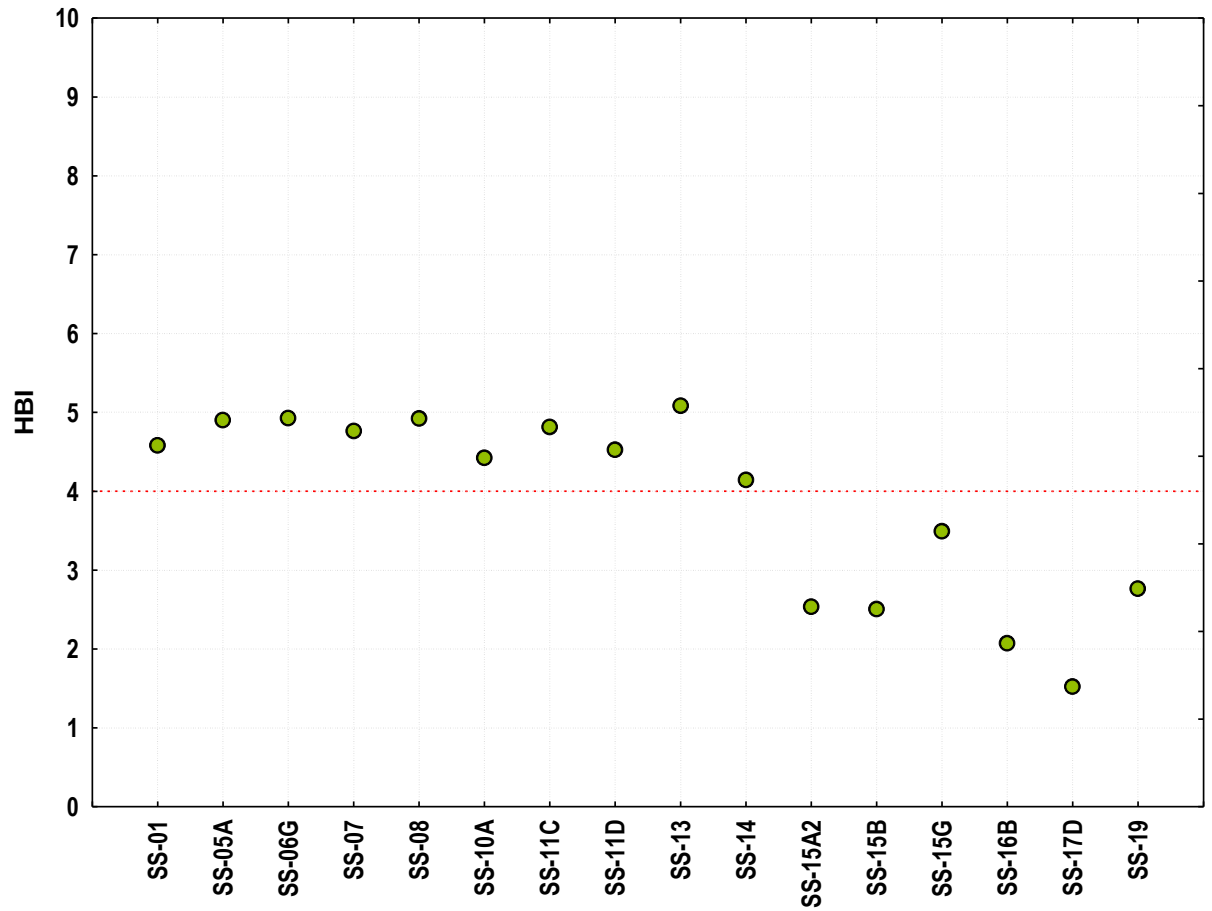

Figure 5-2. Hilsenhoff Biotic Index (HBI) values: comparison among sites. The red dashed line represents the presumed impact threshold determined for the Clark Fork River basin [McGuire, 2009]. Silver Bow Creek watershed, September 17-21, 2018.

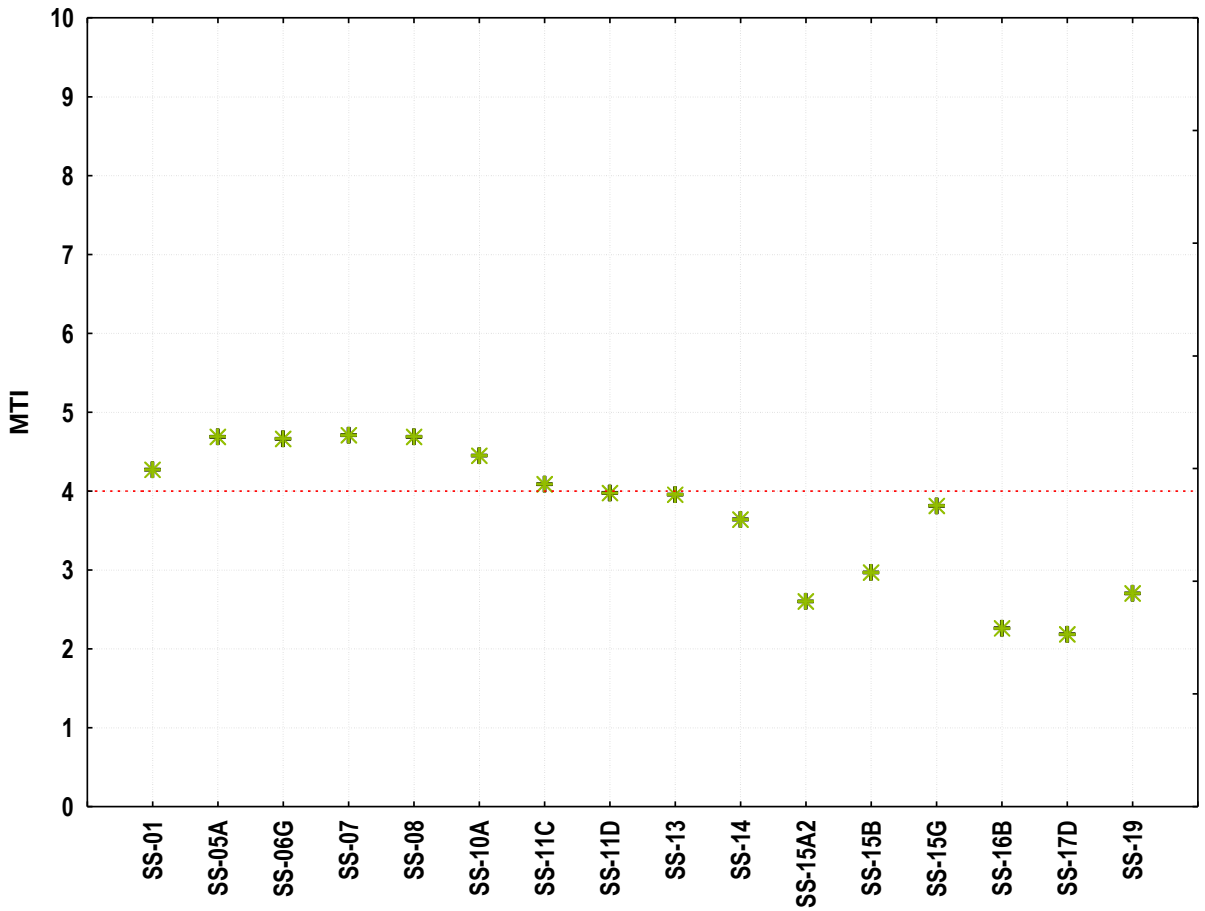

Figure 5-3. Metals tolerance index (MTI) values: comparison among sites. The red dashed line represents the presumed impact threshold determined for the Clark Fork River basin [McGuire, 2009]. Silver Bow Creek watershed, September 17-21, 2018.

5.3.3 Temporal Comparisons and Ecological Interpretations

5.3.3.1 SS-01: Blacktail Creek at Father Sheehan Park

5.3.3.1.1 Comparisons among years

MVFP bioassessment scores (Figure 5-4) varied from year to year at Site SS-01. However, the 2018 score continued the increasing trend that was seen in 2017. Severe impairment was indicated in 2013 with moderate impairment indicated between 2014 and 2018. The MTI indicated slight impairment from metals in every year since 2010 according to McGuire's guidance (Figure 5-5). The HBI indicated mild-to-moderate nutrient enrichment in most years over the same period (Figure 5-5).

5.3.3.1.2 2018 Data

5.3.3.1.2.1 Water quality

Only three mayfly taxa were collected here: the ubiquitous *Baetis tricaudatus* complex (2.8 percent) was abundant, whereas *Ephemerella excrucians* (0.6 percent) and *Callibaetis* species (0.2 percent) were rare. The HBI (4.58) was higher than expected for a low-order Middle Rockies stream and the percentage of collector-filterers (38.4 percent) was much higher than expected. In addition, midges in the genus *Orthocladius* (6.2 percent) and the annelid worms *Nais* species (1.9 percent) were abundant: these taxa suggested the presence of filamentous algae, large crops of which may be associated with nutrient enrichment. Organisms containing hemoglobin (3.0 percent) were also common suggesting that sediments may have been hypoxic. No pollution-sensitive taxa were collected and pollution-tolerant organisms (mostly the elmid beetle, *Optioservus* (12.3 percent)) composed 16.0 percent of the assemblage. The high HBI, high relative abundances of collector-filterers and animals that inhabit filamentous algae, and the commonness of hemoglobin-bearing organisms suggested that water quality was impaired through nutrient enrichment and that sediments may have been hypoxic. The MTI (4.27) exceeded the impairment threshold [McGuire, 2009]: metals contamination may have occurred here.

5.3.3.1.2.2 Thermal condition

No cold-stenotherm taxa and a few specimens of the warm-water loving snail *Stagnicola* species (0.4 percent) and caddisfly *Oecetis* species (0.4 percent) were collected. The thermal preference of the aquatic invertebrate assemblage was 15.3 C.

5.3.3.1.2.3 Sediment deposition

The FSBI-2000 (5.62) indicated an assemblage that was moderately intolerant of fine sediments and the FSBI-2012 (35) provided little evidence that fine sediments dominated the stony stream bottom in this reach. At least 5 caddisfly and 15 "clinger" taxa were collected. *Brachycentrus americanus* (29.1 percent) was the most abundant taxon in the sample and was the only abundant trichopteran. Because only 5 caddisfly taxa were found, slight impediment of

invertebrate colonization of the stony stream bottom by fine sediment could not be ruled out at this site, even though the FSBI-2000 indicated a moderately sediment-intolerant assemblage.

5.3.3.1.2.4 Habitat diversity and integrity

Instream habitats at this site appeared to be diverse and intact as overall taxa richness (47) was relatively high. Two stonefly taxa (an unidentified chloroperlid and *Skwala* species) were collected, but both were uncommon (0.4 percent) indicating that channel morphology may be altered, streambanks may be unstable and riparian function may be disturbed. Five semivoltine taxa were collected from this site: both the elmid beetle *Optioservus* (12.3 percent) and the caddisfly *Brachycentrus americanus* were very abundant making catastrophic dewatering or thermal extremes seem unlikely. The importance of fine particulate organic matter to the food web was indicated by the abundances of collector-filterers (38.4 percent, the dominant functional group) and collector-gatherers (29.6 percent). In addition, scrapers (13.4 percent) were also abundant, which may indicate an open canopy and that autochthonous algal production may have also been important to the food web. However, shredders (2.8 percent) were underrepresented which may indicate that insignificant amounts of large sized allochthonous material entered from the riparian zone or that such material was not retained in this reach.

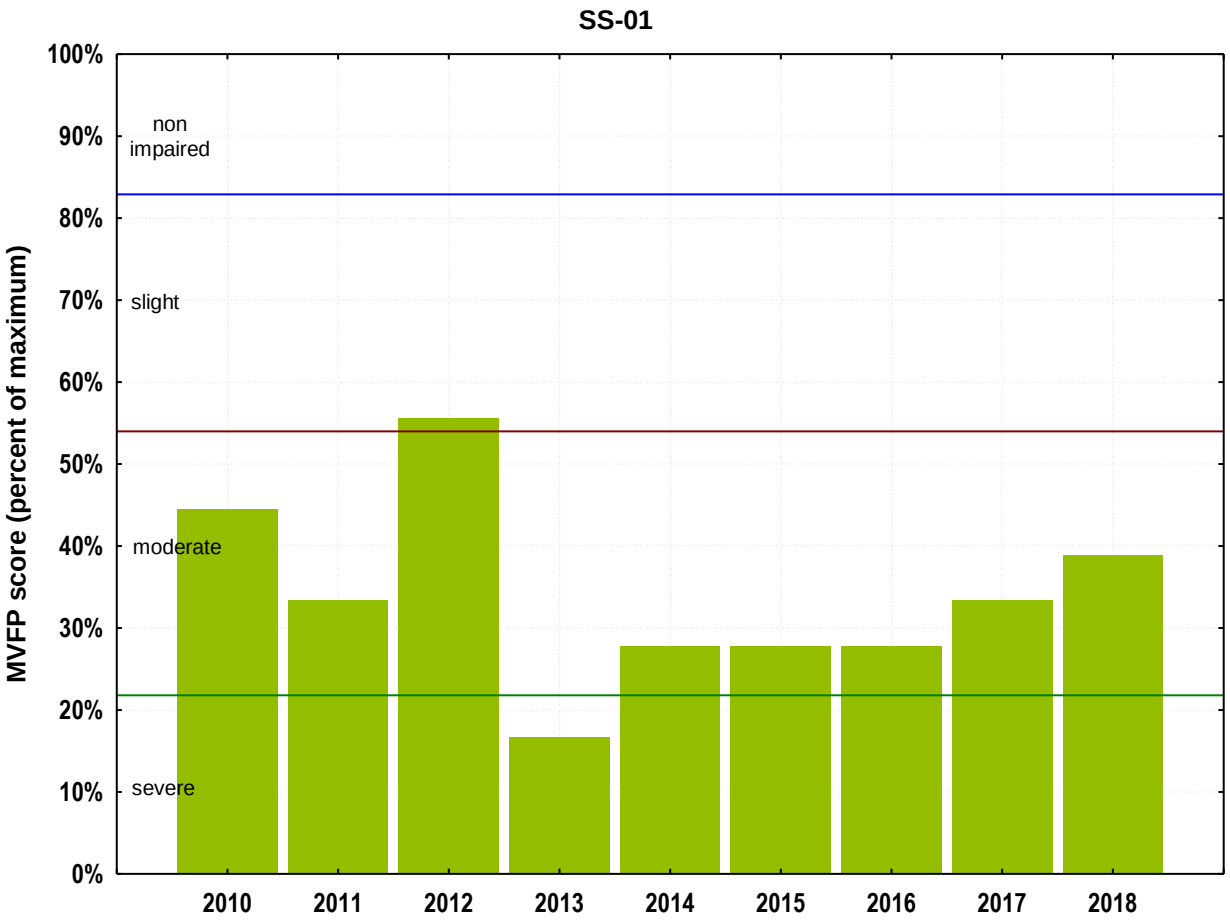

Figure 5-4. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-01. Bars are labeled with impairment classifications.

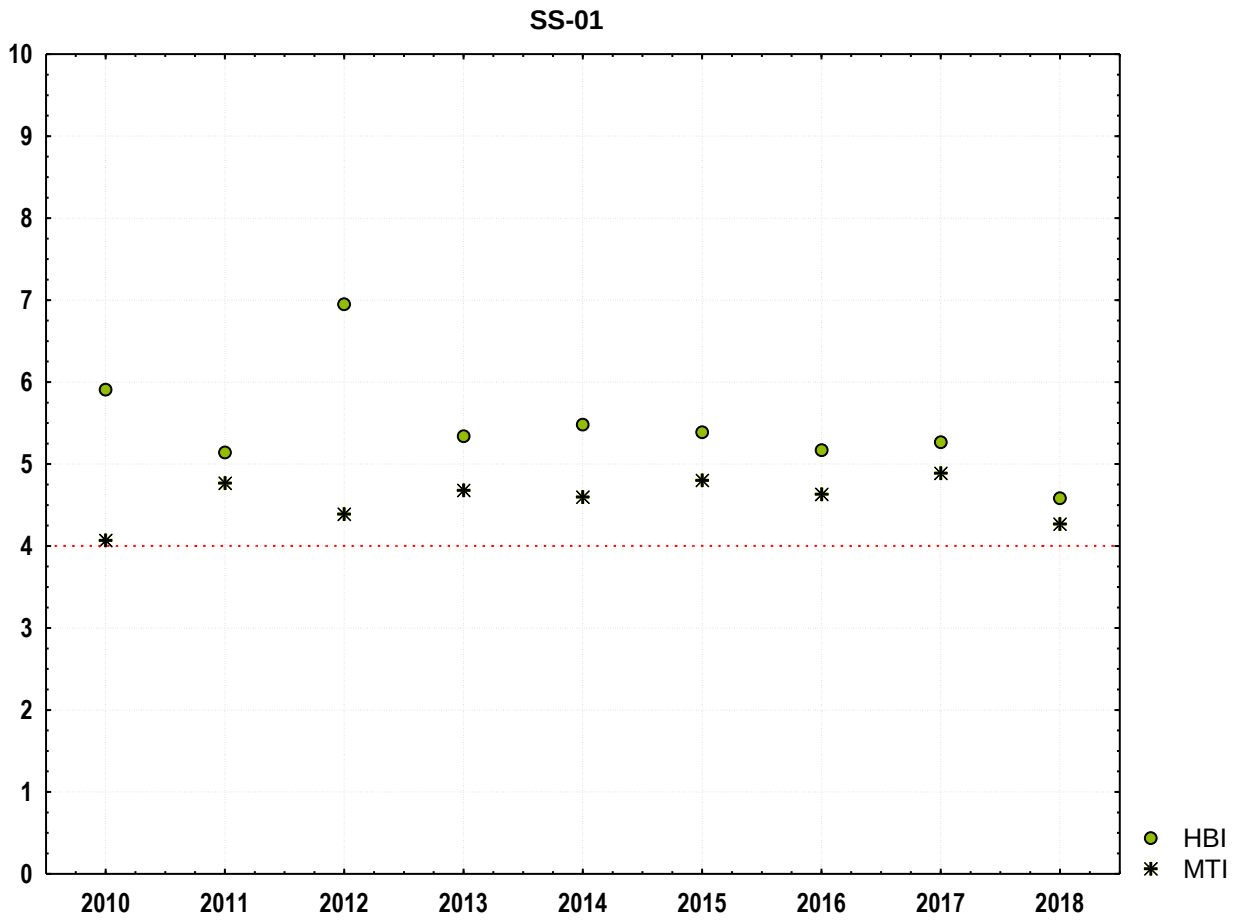

Figure 5-5. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-01. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.2 SS-05A: Silver Bow Creek above Butte Reduction Works

5.3.3.2.1 Comparisons among Years

Like the MVFP bioassessment scores from 2015 to 2017, moderate impairment was indicated at Site SS-05A in 2018 (Figure 5-6). Low scores, suggesting severe impacts, were detected in 2013 and 2014, thus the 2015 through 2018 scores indicated an improvement in condition. According to McGuire's guidance, the MTI indicated slight impairment from metals in each year since sampling was begun (2012), and the HBI indicated moderate nutrient enrichment over the same time (Figure 5-7).

5.3.3.2.2 2018 Data

5.3.3.2.2.1 Water quality

The ecological characteristics of the invertebrate assemblage suggested that water quality was impaired in this reach. Mayflies were represented by only one taxon, the ubiquitous *Baetis tricaudatus* complex (10.1 percent), which was abundant. The HBI (4.90) was elevated, caddisflies in the family Hydroptilidae (2.6 percent) were abundant and collector-filterers (36.2 percent) were extremely abundant. The collection of many hydroptilid caddisflies, which suggested the presence of filamentous algae, and the abundance of collector-filterers in the sample both supported the contention that nutrient enrichment, suggested by the elevated HBI, impaired this reach. Hemoglobin-bearing organisms (0.9 percent) were present; thus, hypoxic sediments cannot be dismissed. No pollution-sensitive taxa were reported, and pollution-tolerant organisms composed 34.7 percent of the sample. The high HBI, commonness of hemoglobin-bearing organisms, and abundance of filamentous algae-loving organisms and collector-filterers suggested that nutrient enrichment was the cause of the reduction in water quality in this reach. Several specimens in the flatworm class Trepaxonemata (10, 1.8 percent) were collected, suggesting some inputs of ground water in this reach. Impact by metals may have occurred here, since the MTI (4.69) exceeded the impairment threshold [McGuire, 2009].

5.3.3.2.2.2 Thermal condition

The thermal preference of the aquatic invertebrate assemblage was 16.3 C. No cold-loving taxa were collected in this reach. Indeed, the warm-water preferring snail *Stagnicola* species (1.7 percent) and caddisfly *Oecetis* species (1.5 percent) were common at this site.

5.3.3.2.2.3 Sediment deposition

Twelve "clinger" and seven caddisfly taxa (6 associated with stony stream bottoms) were reported from the sample taken from this reach. Most of the caddisfly taxa were abundant or common including the filterers *Cheumatopsyche* species (16.2 percent) and *Hydropsyche* species (16.4 percent): these were the two most abundant taxa. The FSBI-2000 of 3.75 suggested a moderately sediment-tolerant invertebrate assemblage and the FSBI-2012 was 20, which provided little evidence for the dominance of fine sediment on the stony stream bottom. These data indicated that slight disruption of invertebrate colonization by the deposition of fine sediment could not be ruled out at Site SS-05A in 2018.

5.3.3.2.2.4 Habitat diversity and integrity

Taxa richness (33) was lower than expected and no stoneflies were collected in this reach. Thus, instream habitats were probably disrupted and/or monotonous and streambanks may have been unstable, channel morphology may have been altered, or riparian function may have been poor. Certainly, such low diversity could be influenced by poor water quality as well. It seems likely that catastrophes that would limit long life cycles were not influential here because six semivoltine taxa were reported. Of the long-lived taxa, the elmid beetle *Optioservus* species (12.9 percent) was abundant. Collector-filterers (36.2 percent) were the most abundant of the functional feeding groups. Collector-gatherers (19.7 percent) and scrapers (15.1 percent) also made up large percentages of the assemblage. The abundance of the mite predators (15.8 percent; *Acari*) resulted in a high relative abundance of predators (22.2 percent). Shredders (0.7 percent) were not well represented. Consequently, fine particulate organic matter and autochthonous algal production were both important to the energy flow in this system, whereas coarse particulate matter was not a large component of the food web: this suggests that inputs from the riparian zone were no significant, or that such material was not retained in this reach.

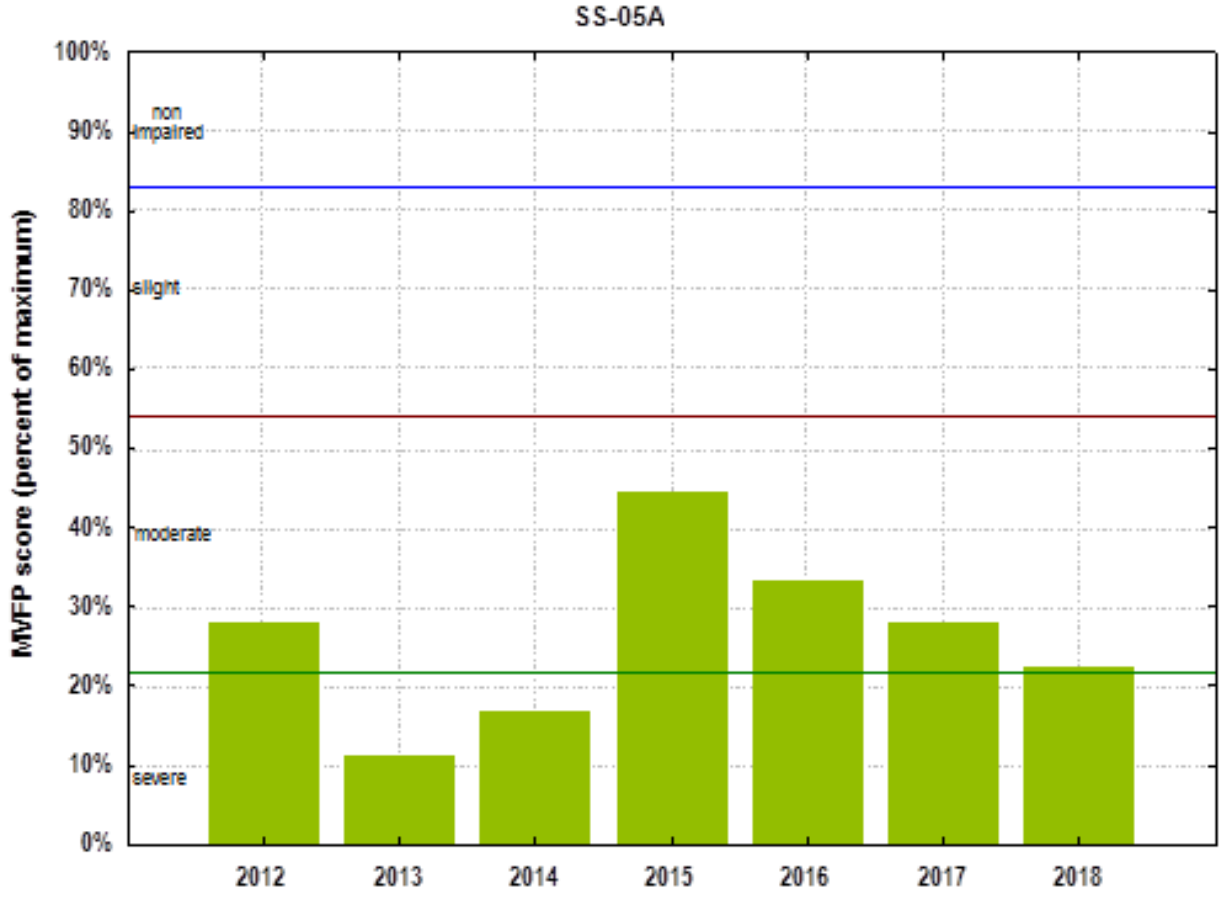

Figure 5-6. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-05A. Bars are labeled with impairment classifications.

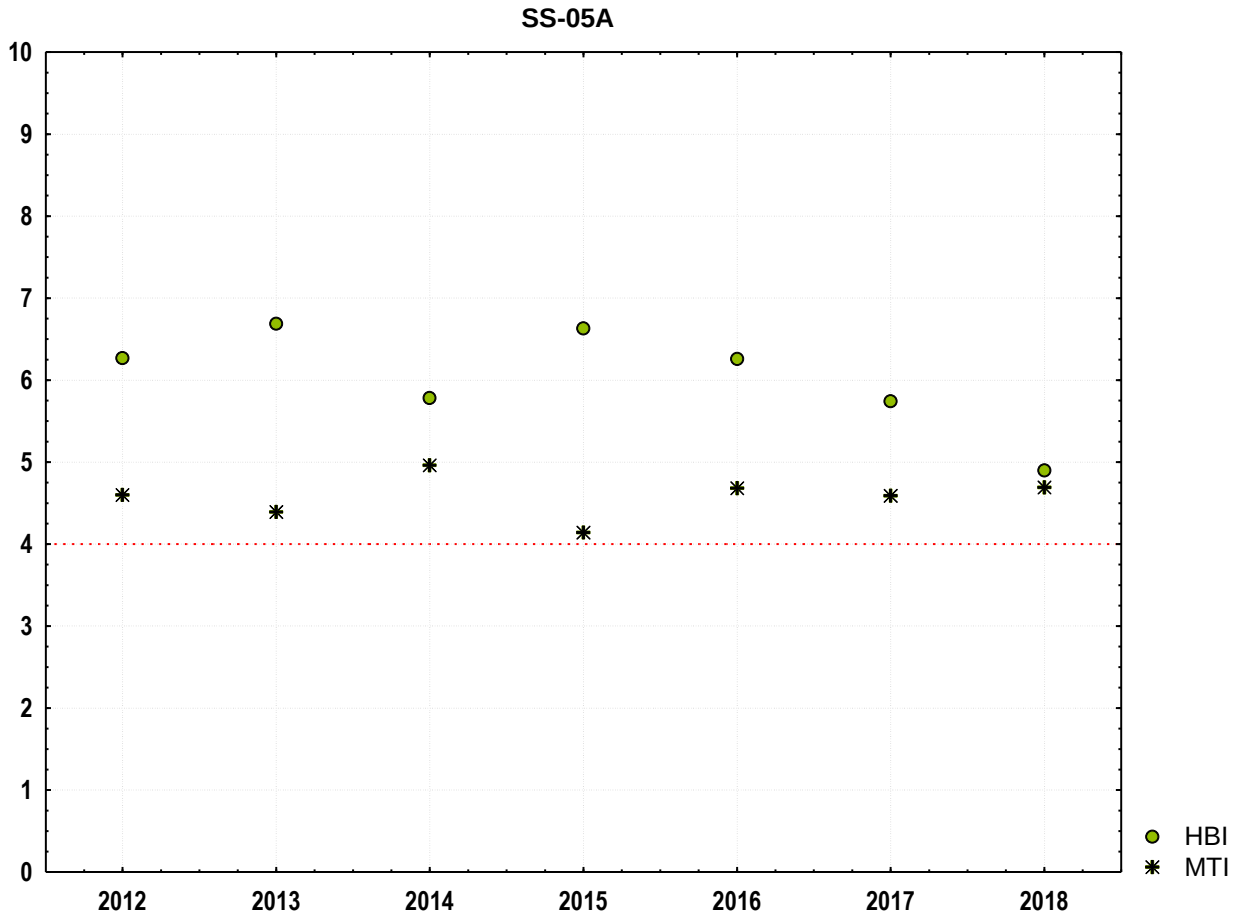

Figure 5-7. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-05A. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.3 SS-06G: Silver Bow Creek above Butte WWTP

5.3.3.3.1 Comparisons among Years

Moderate impairment was indicated by the MVFP bioassessment score at Site SS-06G in 2018. Since 2010 moderate impairment was indicated at this site only in 2011, 2016 and 2017; consequently, the 2016 through 2018 scores suggested an improvement in condition (Figure 5-8). According to McGuire's guidance, the MTI indicated slight impairment from metals in each year since 2012, and the HBI indicated mild-to-moderate nutrient enrichment since 2010 (Figure 5-9).

5.3.3.3.2 2018 Data

5.3.3.3.2.1 Water quality

Water quality appears to be impaired at Site SS-06G. The HBI (4.93) was above expectations and the ubiquitous *Baetis tricaudatus* complex (14.9 percent) was the only mayfly taxon reported from this site. Collector-filterers (55.3 percent), primarily the caddisflies *Hydropsyche* species (37.1 percent, the dominant taxon in the sample) and *Cheumatopsyche* species (10.9 percent), were also extremely abundant. These results suggested that nutrient enrichment impaired water quality. However, hypoxia in the sediments did not appear to occur because no hemoglobin-bearers were collected. Like many of the other sites visited in 2018, no pollution-sensitive taxa were collected and pollution-tolerant organisms (25.8 percent) were extremely abundant, also suggesting impacts to water quality. The MTI (4.66) was elevated, compared to the impairment threshold, thus metals contamination may be likely.

5.3.3.3.2.2 Thermal condition

Several specimens of the warm-water preferring snail *Stagnicola* species (0.9 percent) and caddisfly *Oecetis* species (1.1 percent) were collected and no cold-stenotherm taxa were found in the sample. The characteristics of the biota indicated that the thermal preference of the assemblage was 16.6 C.

5.3.3.3.2.3 Sediment deposition

"Clingers" were represented by 10 taxa and caddisflies were represented by seven taxa (6 associated with stony sediments). Of the caddisflies, *Cheumatopsyche* species, *Hydropsyche* species and *Amiocentrus aspilus* (5.5 percent) were all abundant, and *Oecetis* species was common. These characteristics, as well as an FSBI-2000 of 4.19, indicative of an invertebrate assemblage that was moderately tolerant of fine sediment, suggested that slight limitation of invertebrate colonization of the stony bottom by the deposition of fine sediment probably could not be ruled out here. The FSBI-2012 was 20, providing neither support for nor against the effects of the deposition of fine sediment on the assemblage.

5.3.3.3.2.4 Habitat diversity and integrity

Only 26 taxa were reported from this sample and none of them were stoneflies. Low overall taxa and stonefly diversities could be related to instream habitat disruption, reach-scale disturbances (e.g., altered channel morphology, unstable stream banks or disrupted riparian

zones), impaired water quality, or all three. Disasters like thermal extremes or scour seemed unlikely in this reach because 4 semi-voltine taxa were collected including the abundant elmid *Optioservus* (12.9 percent). Both collector-filterers (55.3 percent) and collector-gatherers (26.2 percent) were extremely abundant indicating the importance of fine particulate organic matter to the food web. Scrapers (13.8 percent) were also an abundant component of the food web; however, shredders (0.2 percent) were not well represented, suggesting that little large allochthonous material entered from the riparian zone or that such material was not retained in the reach.

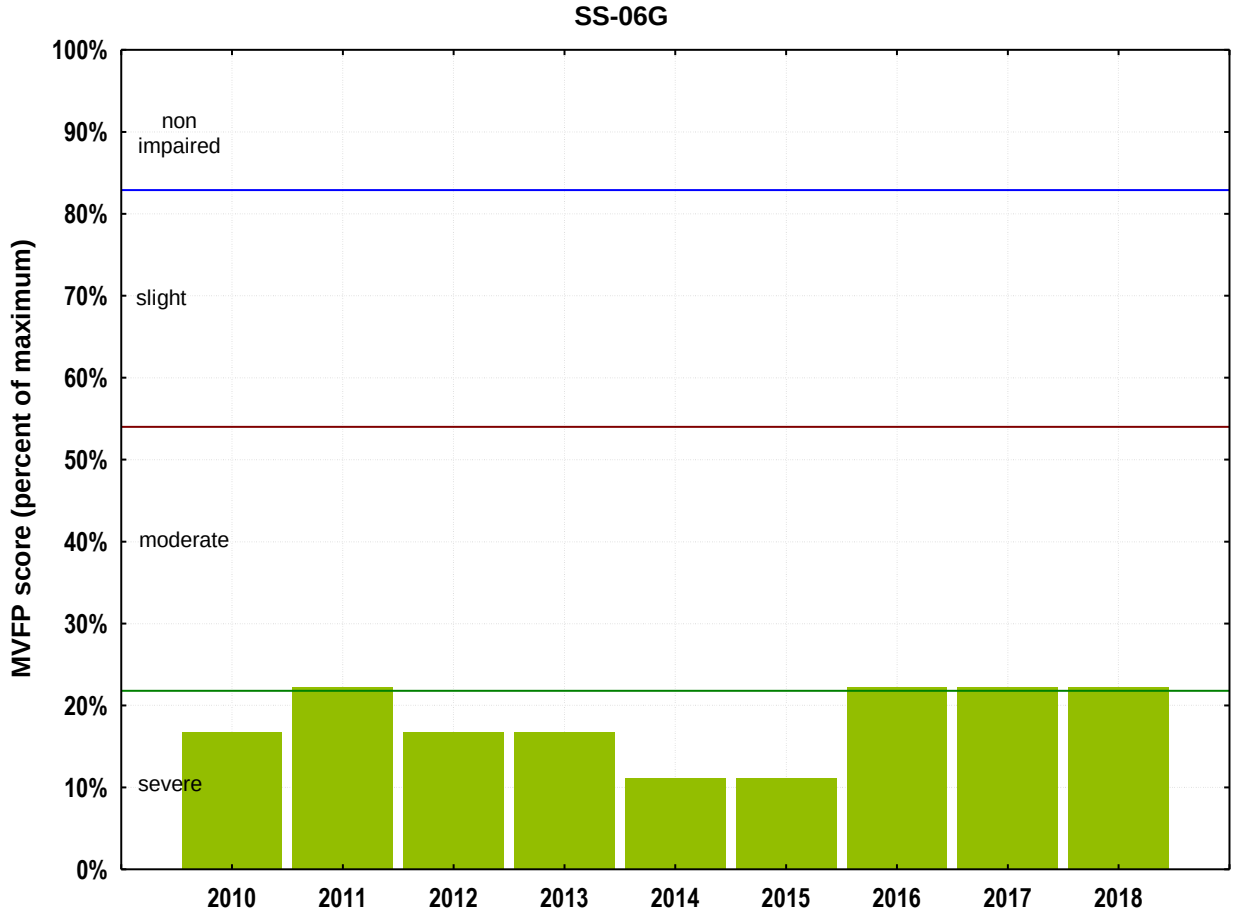

Figure 5-8. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-06G. Bars are labeled with impairment classifications.

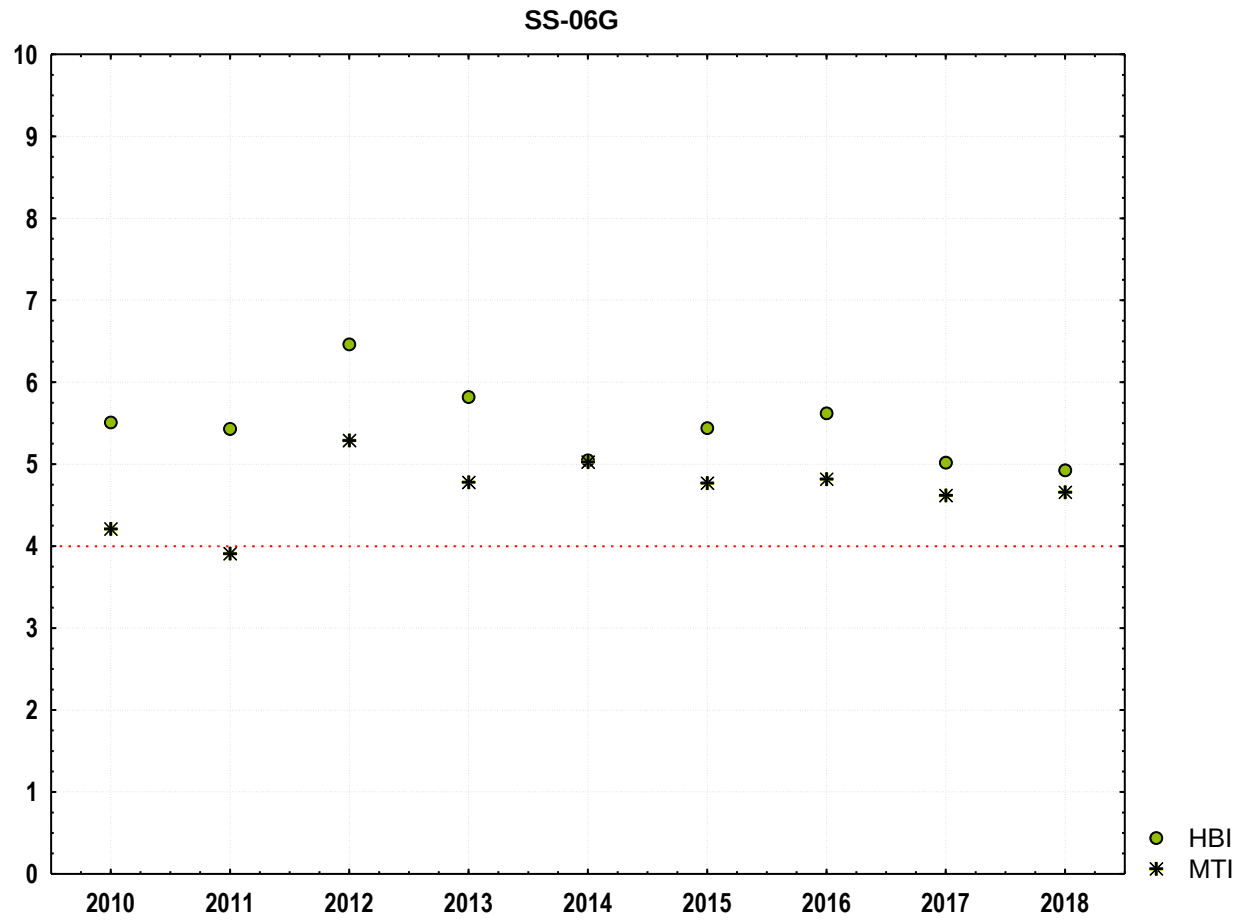

Figure 5-9. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-06G. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.4 SS-07: Silver Bow Creek below Butte WWTP

5.3.3.4.1 Comparisons among Years

As indicated by the MVFP bioassessment index, Site SS-07 was scored as moderately impaired in 2018 and moderate impairment was only indicated one other time: in 2016 (Figure 5-10). In all other years the MVFP indicated severe impairment. According to McGuire's guidance, the MTI indicated slight impairment from metals in most years since 2010. The HBI indicated moderate-to-severe nutrient enrichment since 2010, although the lowest HBI scores were recorded from 2016 to 2018 (Figure 5-11).

5.3.3.4.2 2018 Data

5.3.3.4.2.1 Water quality

The moderately elevated HBI (4.76), the collection of only one mayfly taxon (the ubiquitous *Baetis tricaudatus* complex, 22.2 percent), the absence of pollution-sensitive taxa, and the higher than expected percentages of collector-filterers (41.9 percent, mainly the caddisfly *Hydropsyche* species (36.4 percent) the dominant animal in the sample) and pollution-tolerant organisms (28.9 percent) suggested that water quality at this site was impaired. The low mayfly abundance, high HBI and high percentage of collector-filterers indicated that the impairment may have been related to high nutrient levels. There was little evidence of hypoxic sediments as only a few hemoglobin-bearing organisms (0.2 percent) were found. Contamination by metals may have occurred, as the MTI (4.71) exceeded the impairment threshold.

5.3.3.4.2.2 Thermal condition

Similar to all but one site sampled in 2018, no cold-loving taxa were found in this sample. Two specimens of the warm-water loving snail *Stagnicola* species (0.4 percent) were collected and the caddisfly *Oecetis* species (1.8 percent) was common. The thermal preference of the assemblage was 16.4 C.

5.3.3.4.2.3 Sediment deposition

The FSBI-2000 of 4.36 indicated an assemblage that was moderately tolerant of fine sediment. However, the FSBI-2012 score of 15 provided little evidence for or against the deposition of fine sediment on the stony stream bottom. Eight caddisfly taxa, seven of which were associated with stony stream bottoms, and 12 "clinger" taxa were recorded from this site. Many of the caddisflies were abundant (e.g., *Hydropsyche* species) or common (e.g., *Oecetis* species). Thus, slight hindrance of invertebrate colonization by fine sediment deposition could not be ruled out here.

5.3.3.4.2.4 Habitat diversity and integrity

The diversity (24 taxa) of the benthic fauna was low at this site and as with many of the other Silver Bow sites, no stoneflies were found in the sample. These results suggested that both instream and reach-scale habitats were disrupted. Poor water quality could also contribute to reduced taxa richness. Three semivoltine taxa were collected: only one specimen of the elmid beetle *Zaitzevia* species (0.2 percent) and a few specimens of the caddisfly *Brachycentrus*

occidentalis (0.7 percent) were collected, but the elmid beetle *Optioservus* species (23.9 percent) was the second most abundant organism in the sample. Catastrophic events such as thermal extremes seem unlikely here. Collectors (filterers, 41.9 percent; gatherers, 27.4 percent) dominated the functional composition of the assemblage. Lack of channel shading may have benefited the well-developed algal films that were suggested by the high relative abundance of scrapers (25.0 percent). Thus, fine particulate organic matter and autochthonous algal production were both important in the food web. Shredders (0.6 percent) were rare, implying that coarse particulate organic matter deposited mainly from stream-side vegetation contributed little to the food web.

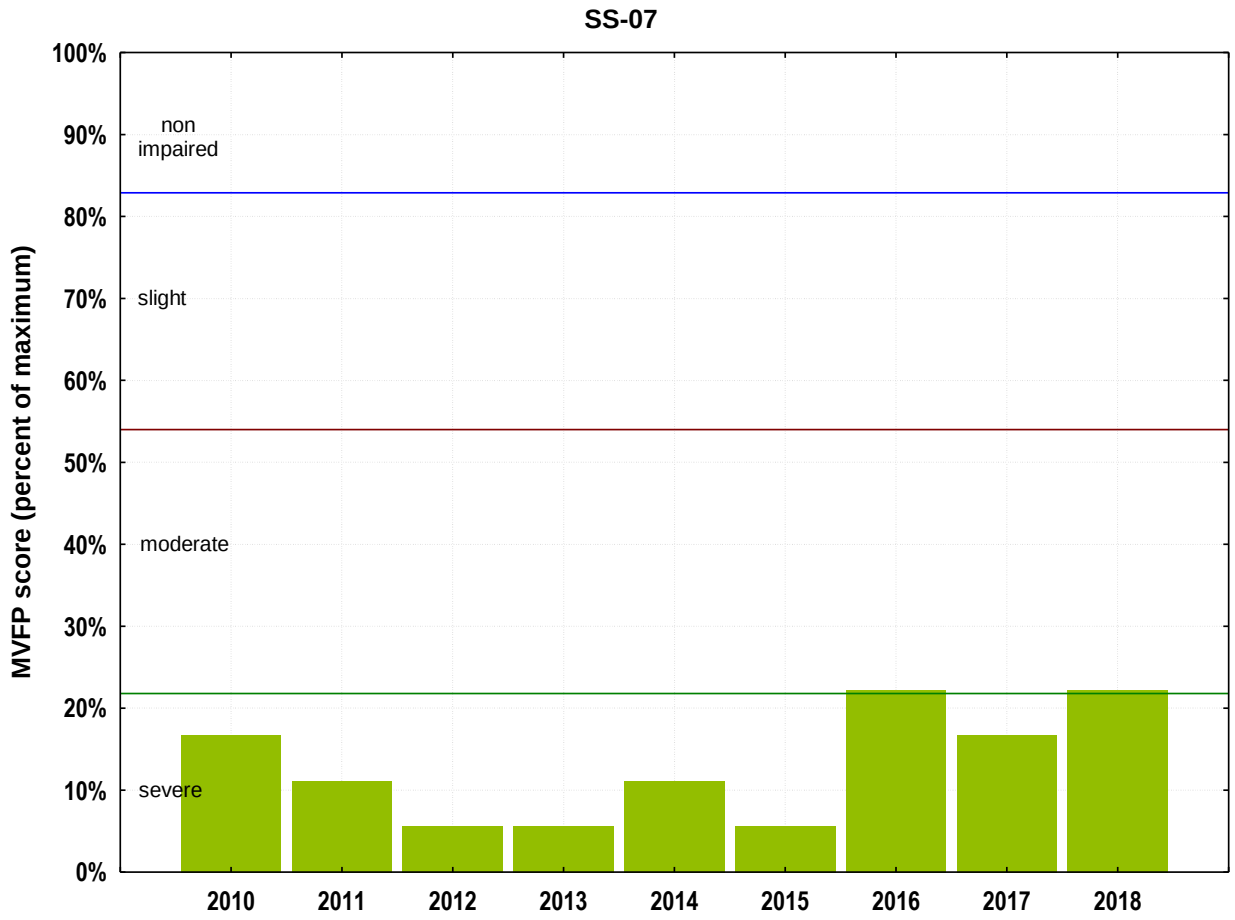

Figure 5-10. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-07. Bars are labeled with impairment classifications.

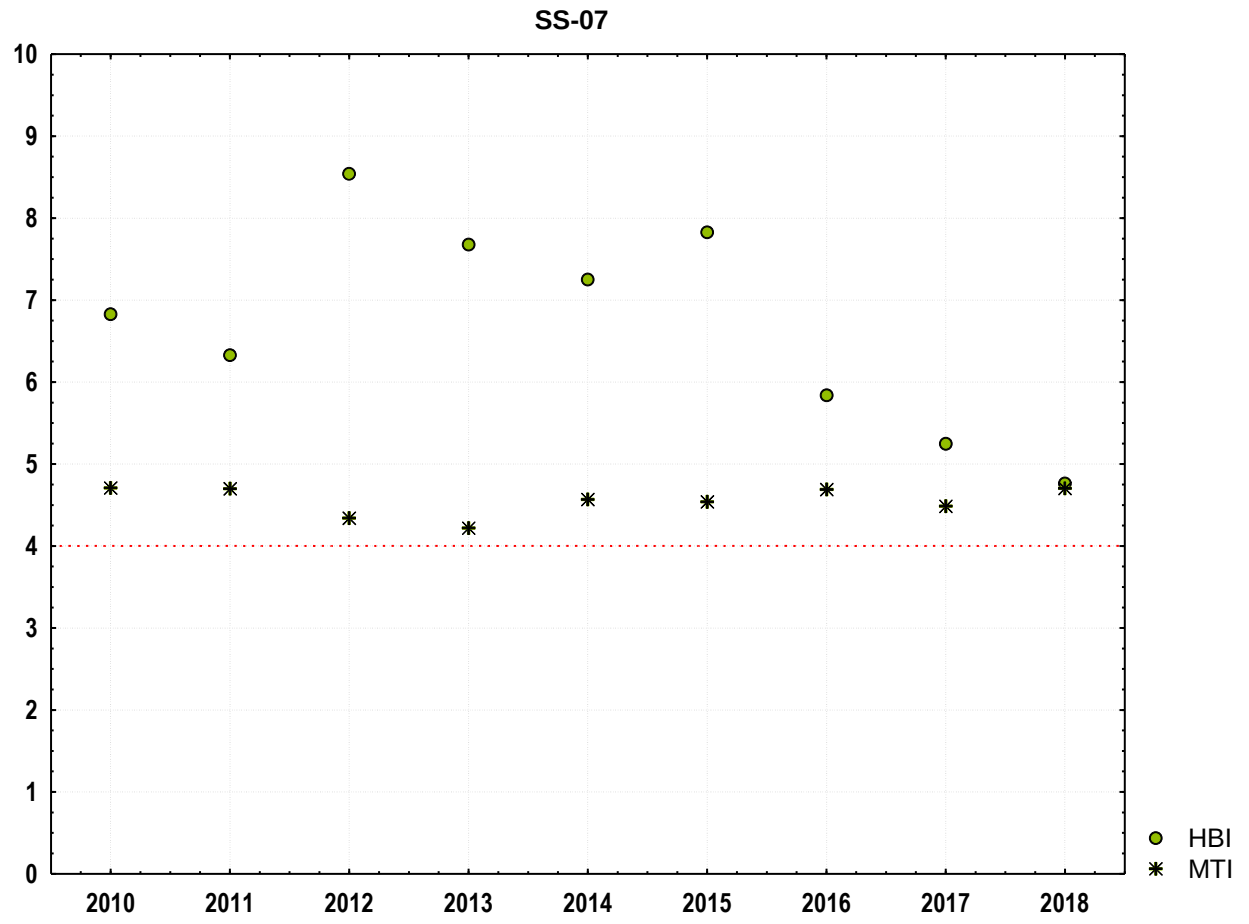

Figure 5-11. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-07. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.5 SS-08: Silver Bow Creek at Rocker

5.3.3.5.1 Comparisons among Years

Severe impairment was indicated by the MVFP index at Site SS-08 in 2018 (Figure 5-12). This rating was a reduction from the moderate scores seen from 2014 through 2017. According to McGuire's guidance, the MTI indicated slight impairment from metals in 2018. The MTI varied between slight and no impairment in all other years. In most years the HBI indicated mild-to-moderate nutrient enrichment. HBI and MTI scores are graphed in Figure 5-13.

5.3.3.5.2 2018 Data

5.3.3.5.2.1 Water quality

Mayfly diversity was well below expectations: the ubiquitous *Baetis tricaudatus* complex (9.0 percent) was the only mayfly taxon collected. The HBI (4.92) was elevated over expectations. indicating an assemblage that was somewhat tolerant of organic pollution. The sample contained no pollution-sensitive taxa and a very high percentage of pollution-tolerant organisms (38.6 percent). *Cheumatopsyche* species (24.5 percent), the most abundant taxon in the sample, made up most of the pollution-tolerant animals. In addition, given the abundance of *Cheumatopsyche* and *Hydropsyche* (20.0 percent), collector-filterers were very abundant (56.1 percent) in the sample. These ecological characteristics suggested that water quality was impaired through nutrient enrichment. Sediments may have also been hypoxic at times because hemoglobin-bearing organisms (1.5 percent) were common. A few specimens (4) of the flatworm class Trepaxonemata were collected suggesting that ground water was entering this reach. The MTI (4.69) exceeded the impairment threshold, consequently contamination by metals may have occurred in at Site SS-08.

5.3.3.5.2.2 Thermal condition

No cold-stenotherm taxa were collected at this site and warm water-loving taxa (*Stagnicola* species, 1.1 percent; *Oecetis* species, 2.6 percent; leeches in the genus *Erpobdella,* 0.2 percent) were common. The temperature preference of the assemblage was 16.5 C.

5.3.3.5.2.3 Sediment deposition

Eight caddisfly taxa (7 associated with stony sediments), many of which were abundant or common, along with 11 "clinger" taxa, were collected. The FSBI-2000 (3.84) indicated an assemblage that was moderately tolerant of the presence of fine sediments. However, little evidence was provided for the deposition of fine sediments on the stream bottom by the FSBI-2012 score of 25. These results suggested that slight hinderance of the colonization of the stony stream bottom by fine sediment could not be ruled out here.

5.3.3.5.2.4 Habitat diversity and integrity

No stonefly taxa and only 31 total taxa were found in this sample, consequently, instream and reach-scale habitats might be disturbed, although poor water quality cannot be ruled out as the cause. Although only two long-lived taxa were collected, the elmid beetle *Optioservus* species (9.6

percent) and the caddisfly *Brachycentrus occidentalis* (9.0 percent) were both abundant. Catastrophes such as toxic pollutants, dewatering, scouring sediment pulses, or thermal extremes can probably be ruled out. The functional composition of the assemblage was dominated by collector-filterers (56.1 percent) followed by collector-gatherers (22.8 percent). Scrapers (11.1 percent) were also well represented, but shredders (0.8 percent) were rare. These results suggested that the energy flow was dominated by fine particulate organic matter and that autochthonous algal production was also important. The lack of shredders suggested that leaf fall from the riparian zone was reduced or that such material was not retained in the reach.

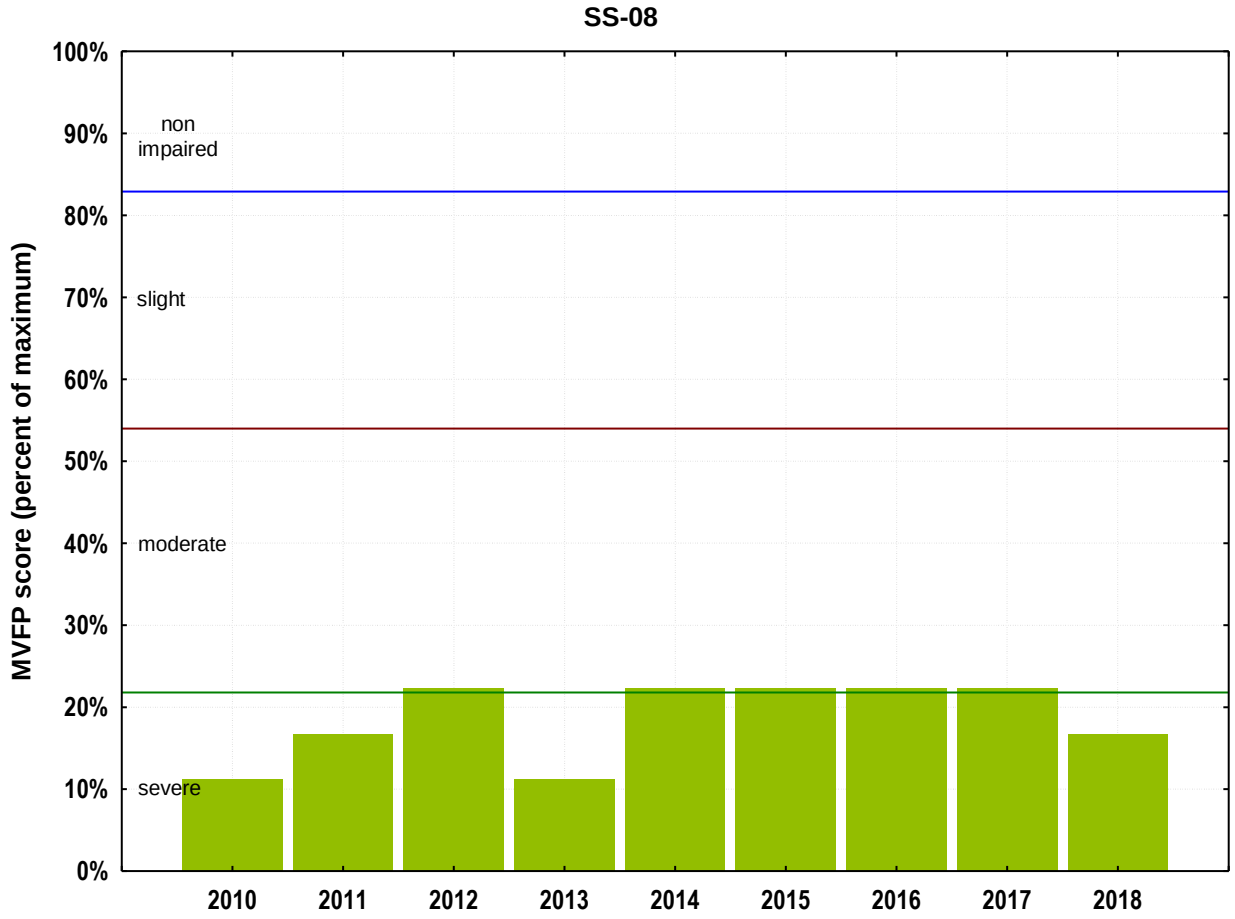

Figure 5-12. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-08 Bars are labeled with impairment classifications.



Figure 5-13. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-08. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.6 SS-10A: Silver Bow Creek above Sand Creek

5.3.3.6.1 Comparisons among Years

Moderate impairment was indicated by the MVFP bioassessment score in 2018. From 2010 to 2018 MVFP scores have indicated moderate impairment six times and severe impairment three times (Figure 5-14). The MTI indicated slight impairment in 2018 according to McGuire's guidance. MTI values in previous years varied between slight and no impairment (Figure 5-15). Although the HBI indicated moderate-to-severe nutrient enrichment from 2010 to 2017, mild enrichment was indicated in 2018 (Figure 5-15).

5.3.3.6.2 2018 Data

5.3.3.6.2.1 Water quality

The composition of the fauna suggested that water quality was impaired at Site SS-10A in 2018. *Baetis tricaudatus* complex (8.6 percent) was the only mayfly taxon reported from this location. The HBI (4.42) was elevated and the percentage of collector-filterers (65.7 percent) was extremely high; the filtering caddisflies *Hydropsyche* species (20.9 percent) and *Cheumatopsyche* species (20.3 percent) were the two most abundant taxa. Pollution-tolerant organisms (30.1 percent) were a large component of the assemblage and no pollution-sensitive taxa were found here. Given these characteristics water quality appeared to be impaired and nutrient enrichment probably played a role in that impairment. In addition, hemoglobin-bearing organisms (2.4 percent) were somewhat common, raising the possibility of hypoxic sediments. The MTI of 4.45 indicated the possibility of metals contamination at the site. Like several sites, a few flatworms in the class Trepaxonemata (5, 1.0 percent) were reported from the sample suggesting that ground water may be entering and influencing the composition of the invertebrate assemblage in this reach.

5.3.3.6.2.2 Thermal condition

Like all but one site in 2018, no cold-stenotherm taxa were reported from this site. The warm-water preferring caddisfly *Oecetis* species (1.0 percent) was present. The temperature preference of the assemblage was 17.1 C.

5.3.3.6.2.3 Sediment deposition

Caddisfly taxa richness (7, six associated with stony sediments) and "clinger" taxa richness (13) were slightly lower than expectations for a low order stream in the Middle Rockies ecoregion. All but one of the six caddisfly taxa associated with stony sediments were abundant or common (caddisflies made up 64.9 percent of the fauna). The FSBI-2000 of 4.23 suggested a moderately sediment-tolerant assemblage. The FSBI-2012 (10) provided little evidence of fine sediment deposition in this reach. Consequently, the data suggested that slight inhibition of invertebrate colonization of the stony stream bottom could not be ruled out at Site SS-10A.

5.3.3.6.2.4 Habitat diversity and integrity

As with many of the other sites, stoneflies were absent and overall taxa richness (30) was low, suggesting disturbed instream and reach-scale habitat features or poor water quality or both. However, 5 long-lived taxa were collected including the abundant caddisfly *Brachycentrus occidentalis* (17.3 percent) and the common beetle *Optioservus* species (2.6 percent). Consequently, catastrophes like periodic thermal extremes, scour, dewatering, or toxic pollutants were unlikely here in 2018. As mentioned earlier, collector-filterers (65.4 percent) were the most common functional group. Collector-gatherers (14.5 percent) and scrapers (8.6 percent) were also well represented. However, shredders (0.2 percent) were underrepresented. Thus, both fine particulate matter and autochthonous algal production appeared to be important to the energy flow in this reach, whereas coarse particulate organic matter was either rarely deposited in the reach, or if deposited, was not retained.

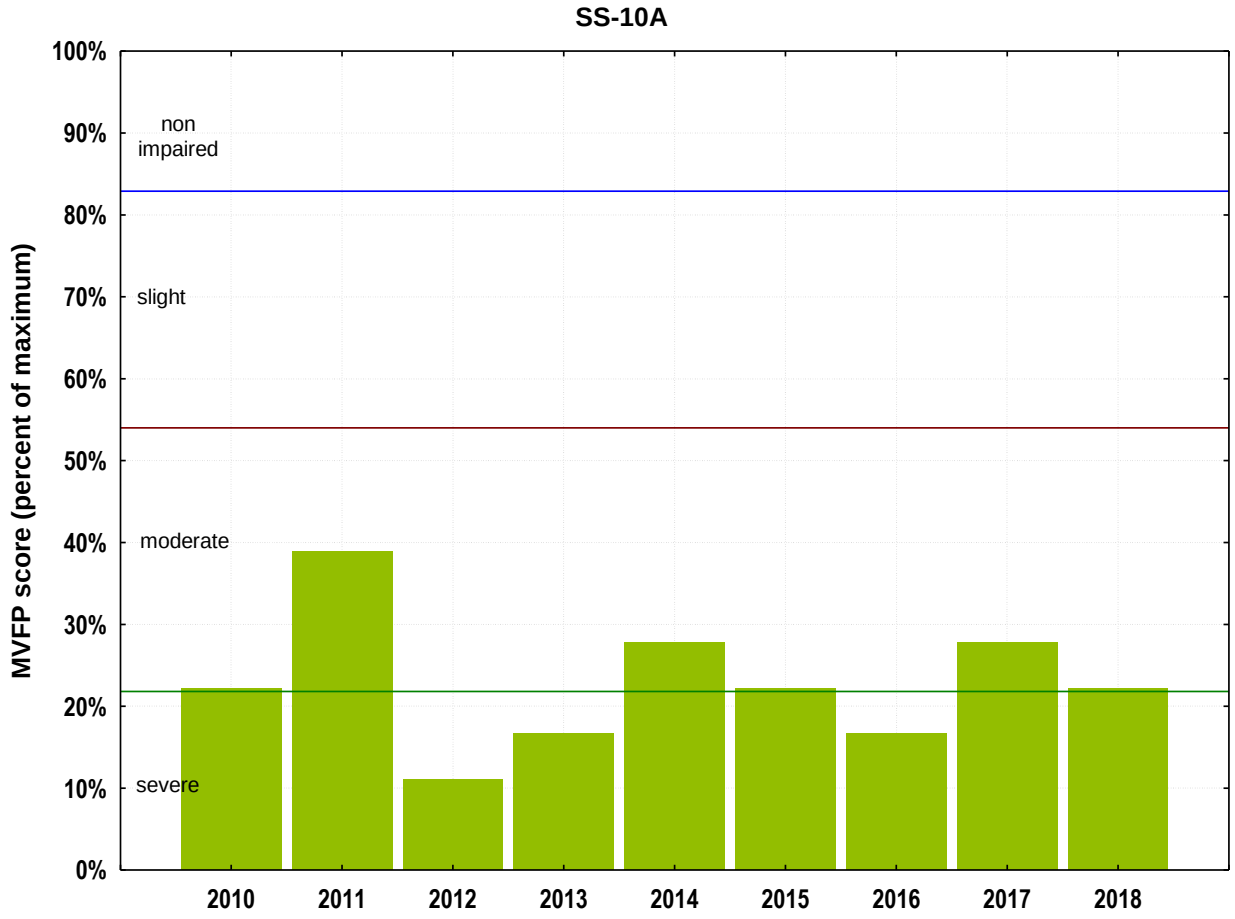

Figure 5-14. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-10A. Bars are labeled with impairment classifications.

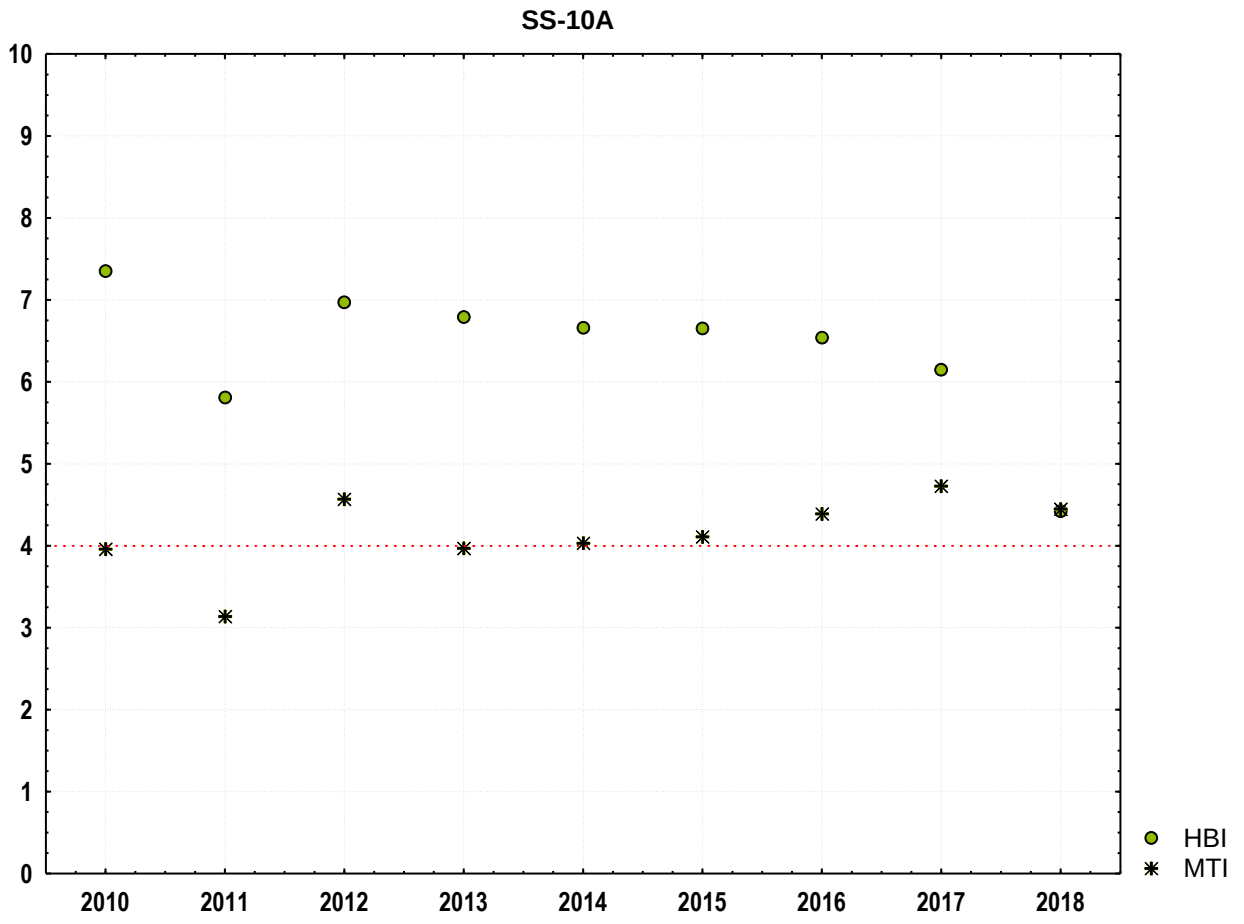

Figure 5-15. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-10A. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.7 SS-11C: Silver Bow Creek above Browns Gulch

5.3.3.7.1 Comparisons among Years

The MVFP bioassessment score indicated moderate impairment (Figure 5-16) as it had in 5 of eight of the previous years. Severe impairment was indicated in 2011, 2014 and 2017. The HBI indicated mild nutrient enrichment in 2018, similar to the mild-to-moderate nutrient enrichment detected since 2010 (Figure 5-17). According to McGuire's guidance, the MTI was slightly higher than the threshold for impairment in 2018 and it vacillated between slightly above and below that threshold since 2010 (Figure 5-17).

5.3.3.7.2 2018 Data

5.3.3.7.2.1 Water quality

The characteristics of the invertebrate fauna suggested that water quality was impaired, and that nutrient enrichment played a role in the impairment. Like many other sites visited in 2018, *Baetis tricaudatus* complex (10.9 percent) was the only mayfly taxon reported from this sample. The HBI value (4.82) suggested slight impairment as the result of nutrient enrichment. Sediment hypoxia was probably likely here as well because hemoglobin-bearing organisms (4.7 percent, mainly the midge *Microtendipes* species, (4.4 percent) were common. No pollution-sensitive taxa were collected. Pollution-tolerant organisms (24.2 percent) were a large component of the fauna, mainly due to the abundance of the caddisfly *Helicopsyche* species (11.1 percent) and the elmid beetle *Optioservus* species (6.7 percent). Collector-filterers (38.7 percent), including the filtering caddisfly *Brachycentrus occidentalis* (18.0 percent, the most abundant organism in the sample), sphaeriid clams (6.6 percent), blackflies (*Simulium* species, 4.2 percent), and *Microtendipes*, were extremely abundant. The MTI (4.09) provided only slight evidence for metals contamination.

5.3.3.7.2.2 Thermal condition

Several warm water-loving taxa were collected (e.g., *Helicopsyche* species, 11.1 percent; the leech *Theromyzon* species; 0.2 percent) and no cold water-loving taxa were reported in this sample. The temperature preference of the assemblage was 17.0 C.

5.3.3.7.2.3 Sediment deposition

An FSBI-2000 of 4.66 suggested that the assemblage was moderately sediment-tolerant and the FSBI-2012 (10) provided no additional evidence for the impact of fine sediment on the biota. Eight caddisfly and 11 "clinger" taxa were found. Given these data it appeared that the effects of fine sediment on the assemblage should not be dismissed here.

5.3.3.7.2.4 Habitat diversity and integrity

The sample yielded only 28 taxa, which may have been an indication of impaired water quality, disrupted habitats, or both. Like many other sites sampled in 2018, stoneflies were again absent suggesting that reach-scale disturbances such as unstable streambanks, loss of riparian function, or channel alteration may have occurred. Only three long-lived taxa were counted: *B. occidentalis* and the elmid beetle *Optioservus* species, which were both abundant, and the elmid *Zaitzevia*

species (0.4 percent), which was rare. Scour, dewatering, toxic pollutants, thermal extremes or other severe events that would prevent the completion of long-life cycles were unlikely here. Collector-filterers (38.7 percent), collector-gatherers (27.3 percent) and scrapers (18.6 percent) dominated the functional composition of the assemblage, which suggested that organic material as fine particulates, bacteria in suspension and deposited on the stream bottom, as well as algal production were important energy sources in the reach. However, few shredders (1.6 percent) were collected. Consequently, it appears that litter fall from riparian zones contributed little to the food web.

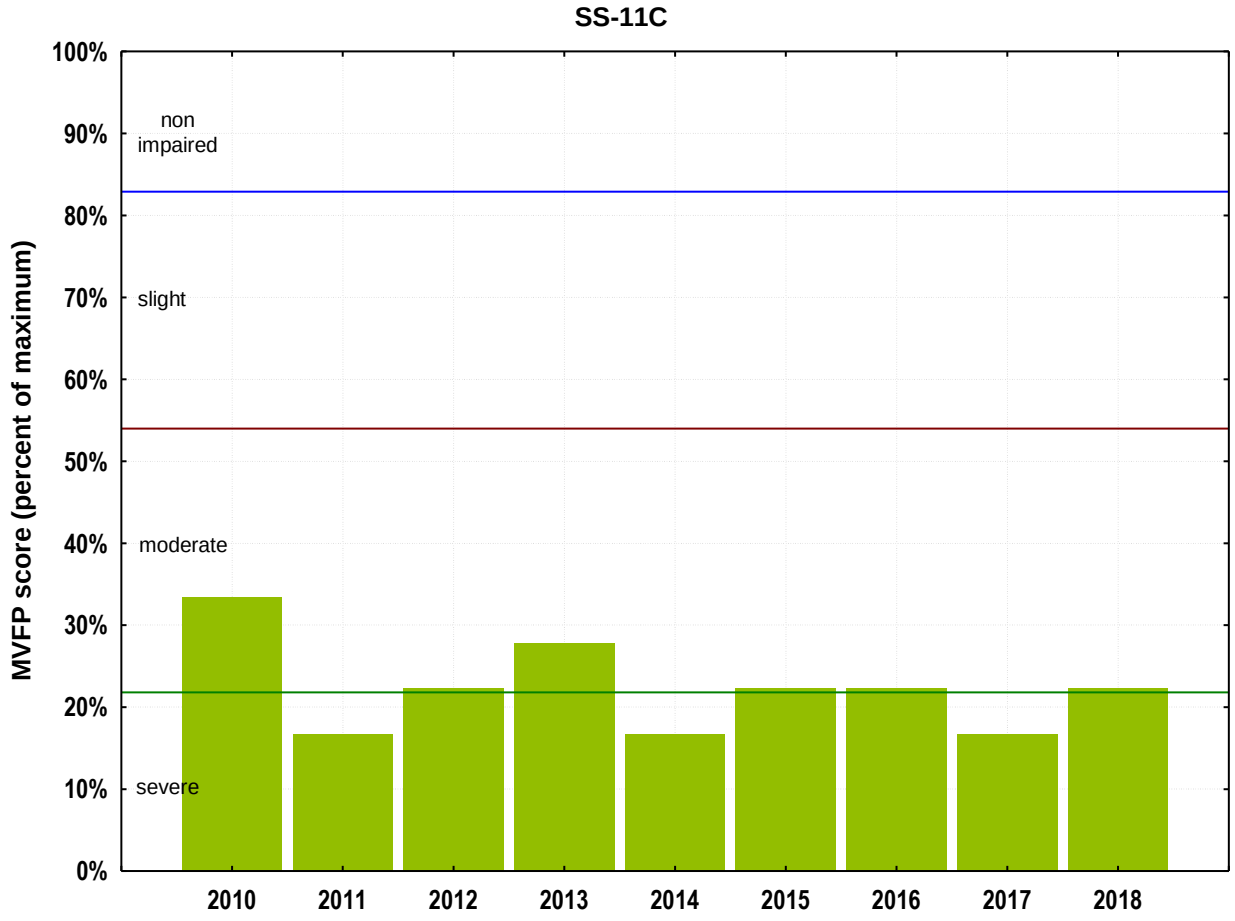

Figure 5-16. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-11C. Bars are labeled with impairment classifications.

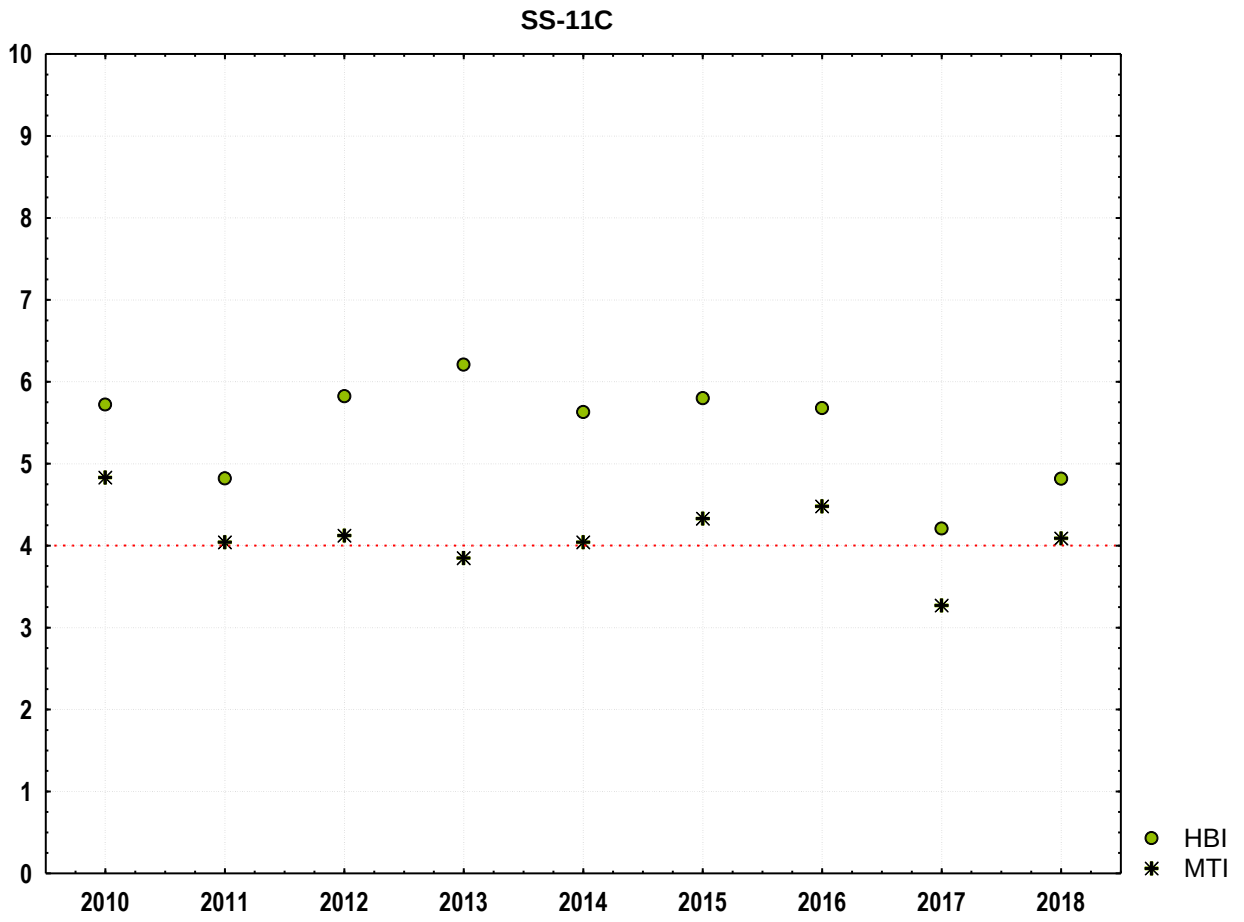

Figure 5-17. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-11C. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.8 SS-11D: Silver Bow Creek below Browns Gulch

5.3.3.8.1 Comparisons among Years

Like scores in most other years, the MVFP index score indicated moderate impairment at Site SS-11D in 2018 (Figure 5-18). The MTI did not indicate contamination by metals in 2018 using McGuire's guidance (Figure 5-19). Indeed, the MTI has fluctuated between slight and no evidence for metals contamination since 2010. The HBI indicated mild nutrient enrichment in 2018 and has vacillated between mild and moderate nutrient enrichment since 2010 (Figure 5-19).

5.3.3.8.2 2018 Data

5.3.3.8.2.1 Water quality

Baetis tricaudatus complex (5.1 percent), *Iswaeon* species (0.6 percent) and an unidentified genus in the family Leptophlebiidae (0.2 percent) were the only mayfly taxa collected at this site in 2018. The HBI was 4.52 indicating an assemblage that was somewhat tolerant of organic pollution. Similar to Site SS-11C, hemoglobin-bearing organisms (4.4 percent) were common and were represented primarily by the midge *Microtendipes* species (3.7 percent). These results suggested that water quality was impaired in part through nutrient enrichment and that hypoxic sediments might have been a problem as well. The sample contained no pollution-sensitive taxa and a very high percentage of pollution-tolerant organisms (43.9 percent). In addition, a few specimens of flatworms in the order Trepaxonemata (0.7 percent) were reported, which may indicate that ground water had an influence on surface waters at this site. There appeared to be no evidence of metals contamination as the MTI (3.98) was below the impairment threshold.

5.3.3.8.2.2 Thermal condition

No cold-stenotherm and several warm-water loving taxa were collected including the caddisfly *Helicopsyche* species (20.3 percent, the most abundant organism in the sample) and leeches *Erpobdella* species (1 specimen) and *Theromyzon* species (5 specimens). The temperature preference of the assemblage was 16.6 C.

5.3.3.8.2.3 Sediment deposition

The caddisflies were represented by nine taxa (8 associated with stony sediments) and the "clingers" were represented by 14 taxa. The FSBI-2000 of 4.12 indicated a fauna that was moderately sediment-tolerant; however, the FSBI-2012 (10) added no support to this contention. Thus, most characteristics suggested that slight limitation of invertebrate colonization by the deposition of fine sediment should not be dismissed at Site SS-11D.

5.3.3.8.2.4 Habitat diversity and integrity

Instream habitats appeared to be diverse and intact at Site SS-11D as overall taxa richness was 44. Three stonefly taxa were recorded: *Isoperla* species (2 specimens, 0.4 percent), *Skwala* species (2 specimens, 0.4 percent), and unidentified Chloroperlidae (6 specimens, 1.1 percent). Although only one other site had more stonefly taxa in 2018 than Site SS-11D, the diversity of stoneflies was still somewhat below expectations, suggesting that reach-scale habitat disruption

cannot be ruled out here. Four non-pioneer semivoltine taxa were present. The caddisfly *Brachycentrus occidentalis* (8.6 percent) and the elmid beetle *Optioservus* species (14.1 percent) were both abundant, whereas the elmid *Zaitzevia* species (1.3 percent) and dragonflies in the family Gomphidae (0.9 percent) were common. Given the abundances of these taxa, catastrophes such as periodic scour, dewatering, thermal stress, or toxic pollutants were probably unlikely. Interestingly, scrapers (36.2 percent) dominated the functional-feeding groups in part because the grazing caddisfly *Helicopsyche* species was the dominant organism in the sample. Thus, algal films were probably important autochthonous energy sources in this reach and may have indicated an open canopy. Fine particulate organic matter was also a major part of the food web as collector-filterers (20.5 percent) and collector-gatherers (20.7 percent) were also very abundant. Although shredders (4.9 percent) were not extremely abundant, their presence suggested that large organic materials such as leaves and woody debris from riparian sources were significant in the food web as well.

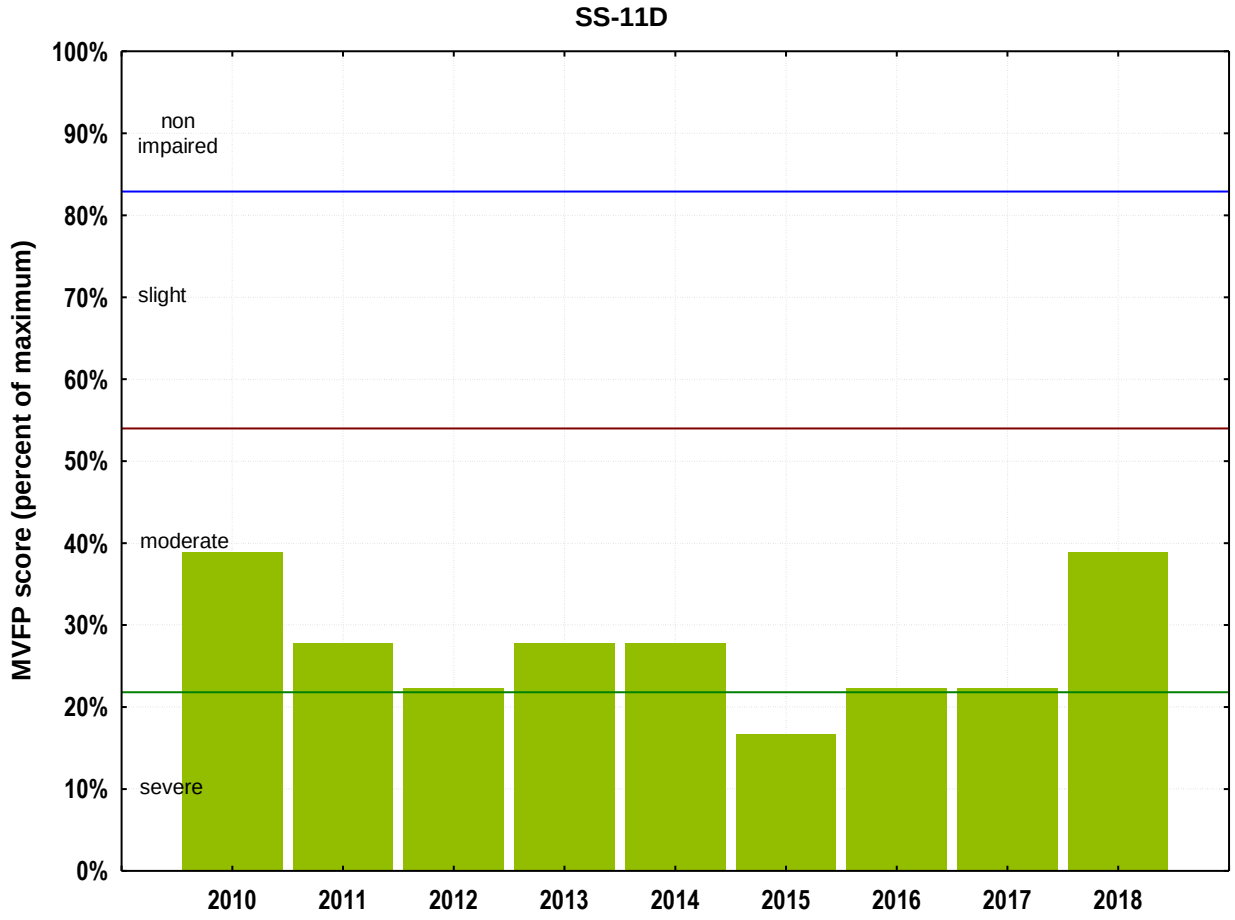

Figure 5-18. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-11D. Bars are labeled with impairment classifications.

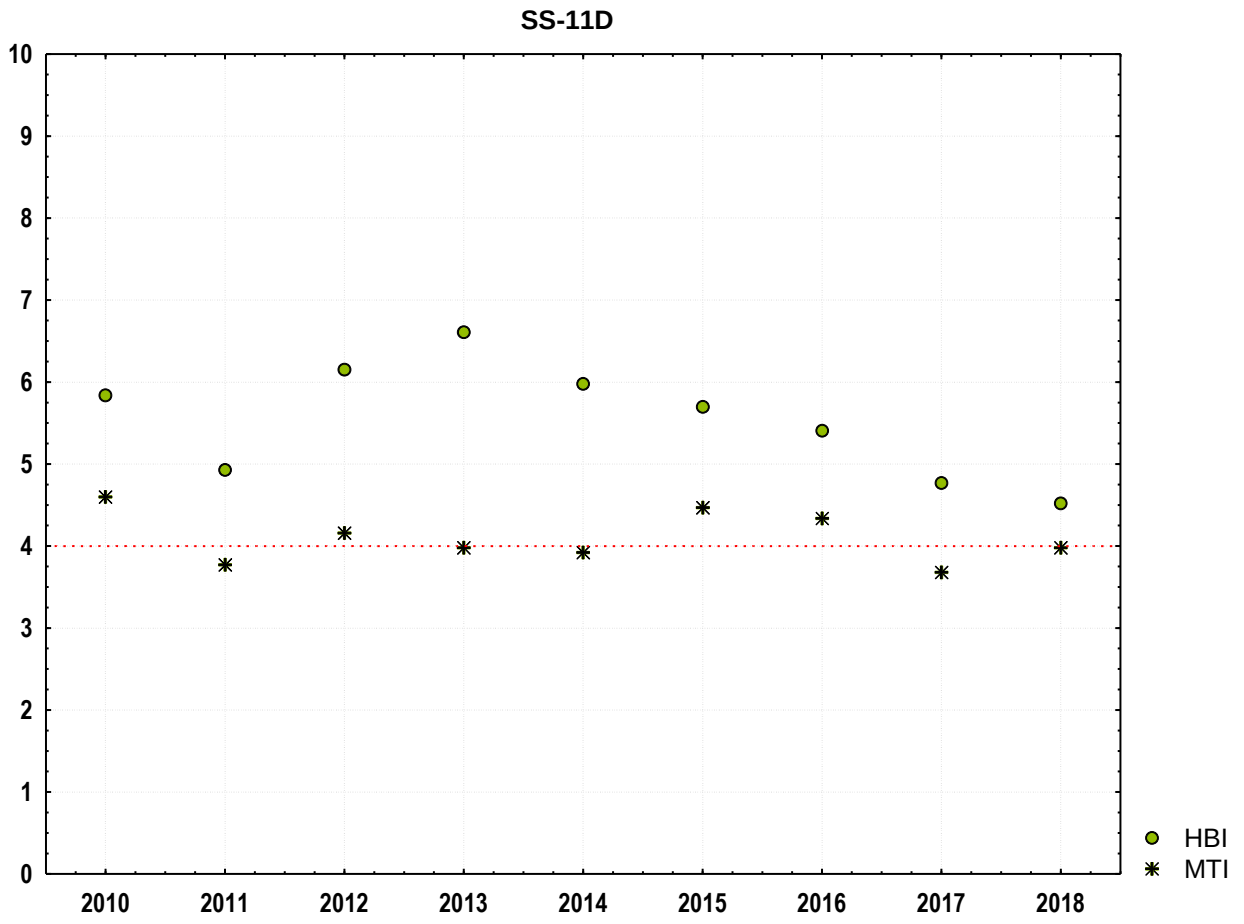

Figure 5-19. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-11D. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.9 SS-13: Silver Bow Creek in Reach L

5.3.3.9.1 Comparisons among Years

The MVFP bioassessment index score rebounded from a low in 2017, which resulted in a severely impaired rating, to again rate the site as moderately impaired in 2018 (Figure 5-20). According to McGuire's guidance, the MTI provided no evidence of impairment from metals in 2018, an impairment classification that was similar to 2014 and 2017 (Figure 5-21). The HBI reversed the steady downward trend in values seen between 2013 and 2017: slight nutrient enrichment was indicated in 2018 (Figure 5-21).

5.3.3.9.2 2018 Data

5.3.3.9.2.1 Water quality

Most of the ecological characteristics that were examined suggested that water quality was impaired in this reach. Four mayfly taxa were found in this sample, but only *Baetis tricaudatus* complex (1.5 percent) was common. The HBI (5.09), which indicated that organic pollution influenced the fauna in this reach, was the highest of any of the sites examined in 2018. Collector-filterers (49.0 percent), mainly the midge *Microtendipes* species (26.0 percent, the dominant organism in the sample) and the caddisfly *Brachycentrus occidentalis* (14.5 percent), dominated the functional mix. These results suggested that water quality impairment was due to nutrient enrichment. In addition, hemoglobin-bearing organisms (26.7 percent, mostly the midge *Microtendipes* species) were very abundant: sediments may have been hypoxic. No sensitive taxa were counted and pollution-tolerant organisms (21.7 percent) *were* a very large component of the assemblage. The MTI (3.95) indicated no impact from metals contamination.

5.3.3.9.2.2 Thermal condition

The calculated thermal preference of the assemblage was 18.4 C and no cold-loving taxa were collected from this site. The high relative abundance of the scraping caddisfly *Helicopsyche* species (10.9 percent) and the presence of the leeches *Erpobdella* species (5 animals) and *Theromyzon* species (1 animal) also suggested warm water temperatures.

5.3.3.9.2.3 Sediment deposition

Seven caddisfly taxa were found in this sample. *Brachycentrus occidentalis* and *Helicopsyche* species were very abundant and *Hydropsyche* species (1.3 percent), *Nectopsyche* species (1.5 percent), and *Oecetis* species (1.1 percent) were common. The "clingers" were represented by 12 taxa. The FSBI-2000 (4.73) indicated a moderately sediment-tolerant fauna. The FSBI-2012 was 5. Thus, slight inhibition of invertebrate colonization of stony substrates by fine sediment could not be ruled out.

5.3.3.9.2.4 Habitat diversity and integrity

Overall diversity (taxa richness = 31) was somewhat lower than expected and may have been associated with water quality impairment or limited instream habitats, or both. *Skwala* species (2 specimens, 0.4 percent of the fauna) was the only stonefly species collected, which may have

also reflected poor water quality or disrupted reach-scale habitat features. Four semivoltine taxa were reported: the elmid *Dubiraphia* species (0.2 percent) and gomphid odonates (0.6 percent) were rare, whereas *Optioservus* species (6.2 percent) and *Brachycentrus occidentalis* were abundant. Catastrophes that disrupt the life cycles of long-lived organisms were rare enough that semivoltine species were able to complete their life cycles. Collector-filterers (49.0 percent) followed by scrapers (17.5 percent) and collector-gatherers (15.1 percent) were the most abundant functional groups indicating the importance of fine particulate organic matter and instream algal production to the energy flow in this system. Shredders (2.6 percent) were underrepresented, perhaps reflecting a lack of riparian inputs to the stream, or the lack of retention of such material.

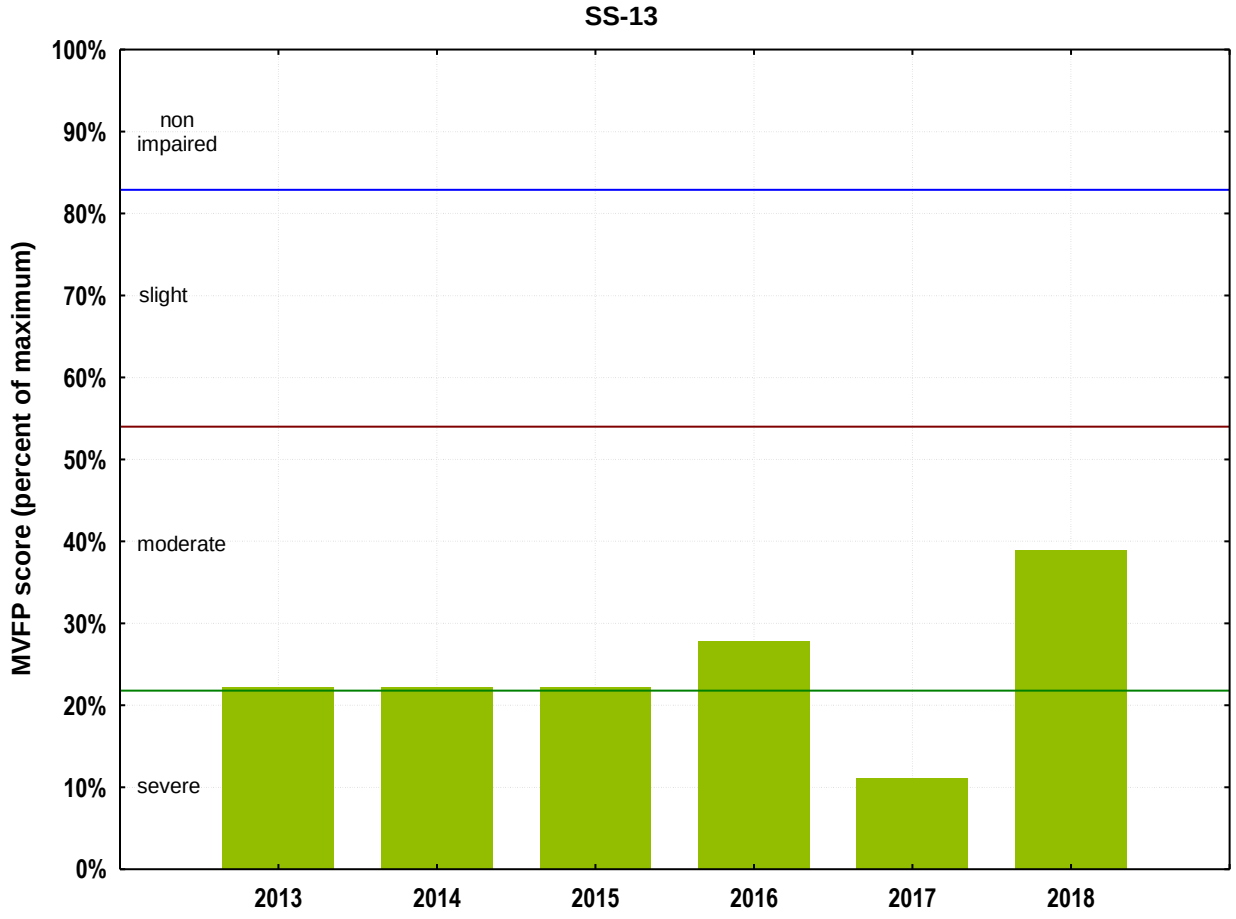

Figure 5-20. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-13. Bars are labeled with impairment classifications.

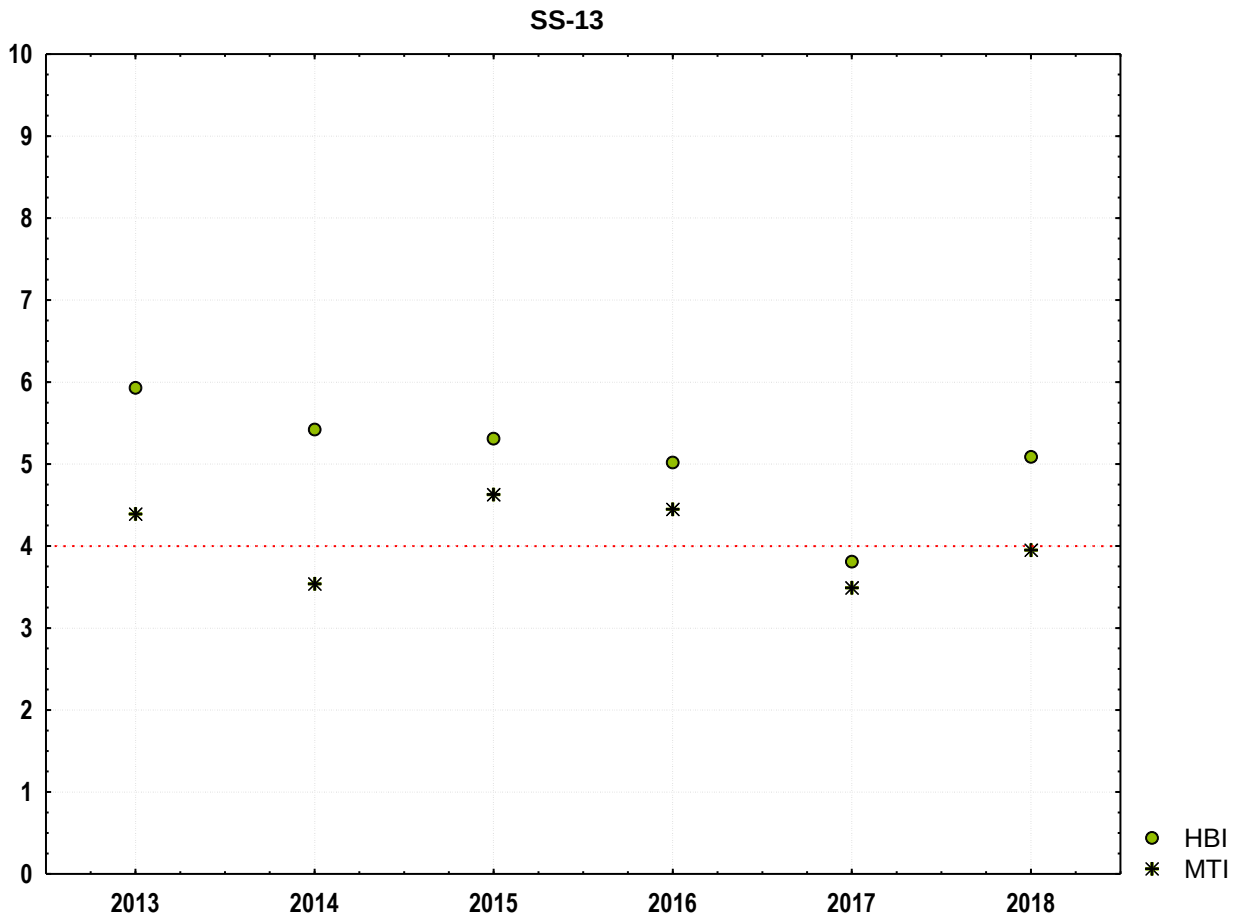

Figure 5-21. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-13. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.10 SS-14D: Silver Bow Creek at Miles Crossing

5.3.3.10.1 Comparisons among Years

Since sampling began in 2010, MVFP scores have consistently indicated moderate impairment at Site SS-14D, a trend that continued in 2018 (Figure 5-22). Based on McGuire's guidance, the MTI in 2018 continued a trend of no metals contamination that began in 2013 (Figure 5-23). The HBI indicated very slight impact from nutrient enrichment in 2018, which followed two years of no impact and several years of mild-to-moderate enrichment (2010-2015) (Figure 5-23).

5.3.3.10.2 2018 Data

5.3.3.10.2.1 Water quality

In 2018, water quality appeared to be impaired at Site SS-14D. The HBI (4.15) was elevated above expectations and only three mayfly taxa were found in the sample. *Baetis tricaudatus* complex (3.1 percent) was common, but *Iswaeon* species (0.2 percent) and *Tricorythodes* species (0.2 percent) were rare. Hemoglobin-bearing organisms (14.5 percent, mostly the midge *Microtendipes* species (14.2 percent)) were very abundant and collector-filterers (50.7 percent, mainly *Brachycentrus occidentalis*, 29.5 percent, the most abundant organism in the sample, and *Microtendipes*) dominated the functional mix. Pollution-tolerant organisms (28.3 percent) were a large component of the assemblage and no pollution-sensitive taxa were reported. Impacts to water quality through nutrient enrichment seemed likely here. In addition, sediments may have had times of low oxygen concentration given the number of hemoglobin-bearing organisms that were collected. The MTI (3.64) indicated no impact from metals contamination.

5.3.3.10.2.2 Thermal condition

No cold-stenotherms were found in the sample from this site. The temperature preference of the assemblage was 16.8 C. In addition, the warm-water loving caddisfly taxa *Helicopsyche* species (14.0 percent) and *Oecetis* species (2.1 percent) and the leech *Erpobdella* species (2 specimens) were collected.

5.3.3.10.2.3 Sediment deposition

Eight caddisfly taxa were present in the sample including the abundant *Brachycentrus occidentalis*, *Helicopsyche* species, *Oecetis* species, and *Hydropsyche* species (2.9 percent). In addition, 12 "clinger" taxa were collected. The FSBI-2000 (5.06) indicated a moderately sediment-tolerant assemblage and the FSBI-2012 was 15. Consequently, sediment deposition limiting invertebrate colonization of stony substrates cannot be ruled out in this reach.

5.3.3.10.2.4 Habitat diversity and integrity

As with many of the other sites, taxa richness (35) was below expectations. Stoneflies were rare: *Skwala* species (1.5 percent) was the only plecopteran collected. Thus, disturbed instream and reach-scale habitat features or poor water quality or both may have been indicated. Catastrophes were probably unlikely here as 4 long-lived taxa were collected, including the abundant caddisfly *B. occidentalis* (29.5 percent) and the abundant elmid beetle *Optioservus*

species (9.0 percent). Collector-filterers (50.7 percent) were the most abundant functional feeding group followed by scrapers (25.4 percent) and collector-gatherers (12.2 percent). These features of the feeding guild suggested that fine particulate organic matter and its associated bacteria and autochthonous algal production were important to the energy flow in this reach. Shredders (2.5 percent) were not well represented implying that coarse particulate organic matter was not deposited or retained on the stream bottom.

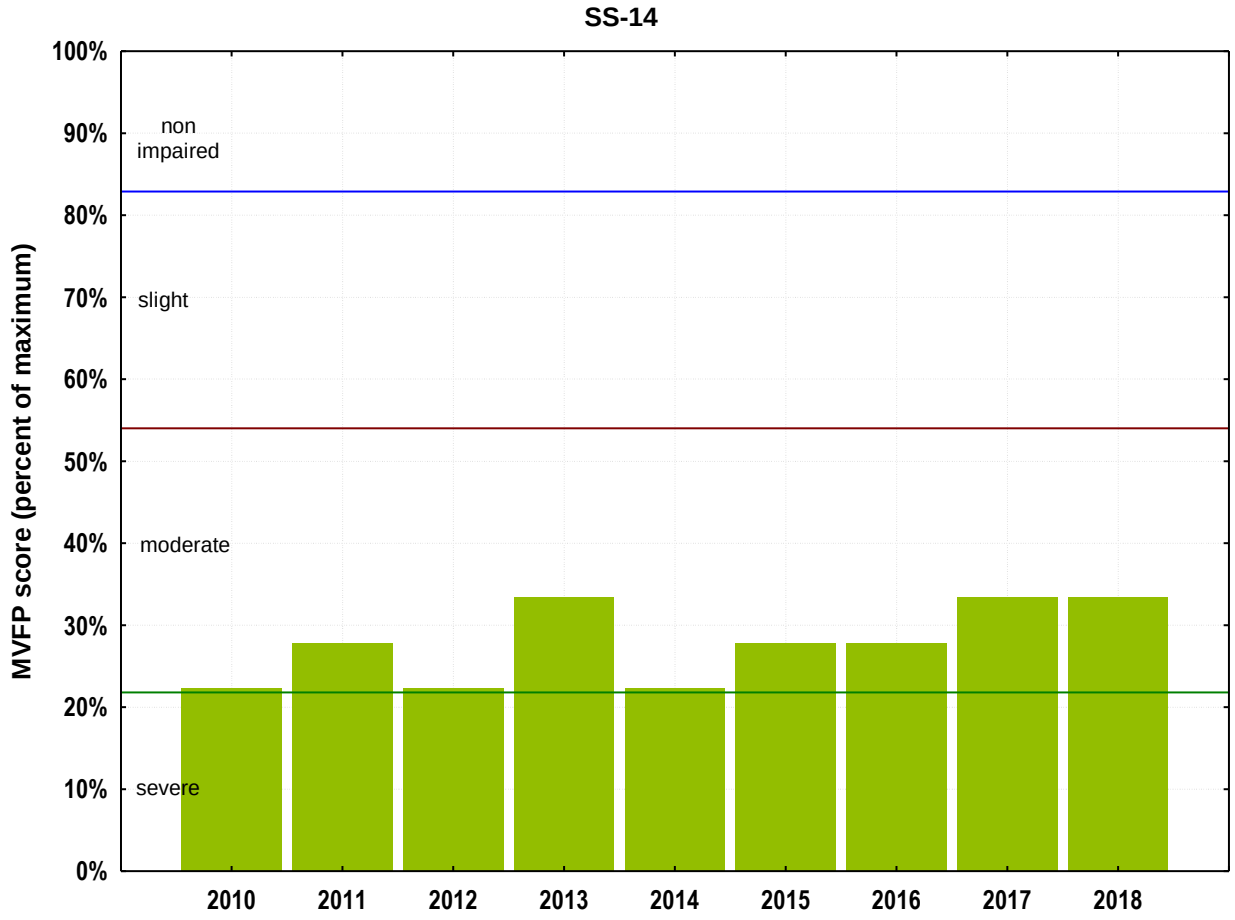

Figure 5-22. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-14D. Bars are labeled with impairment classifications.

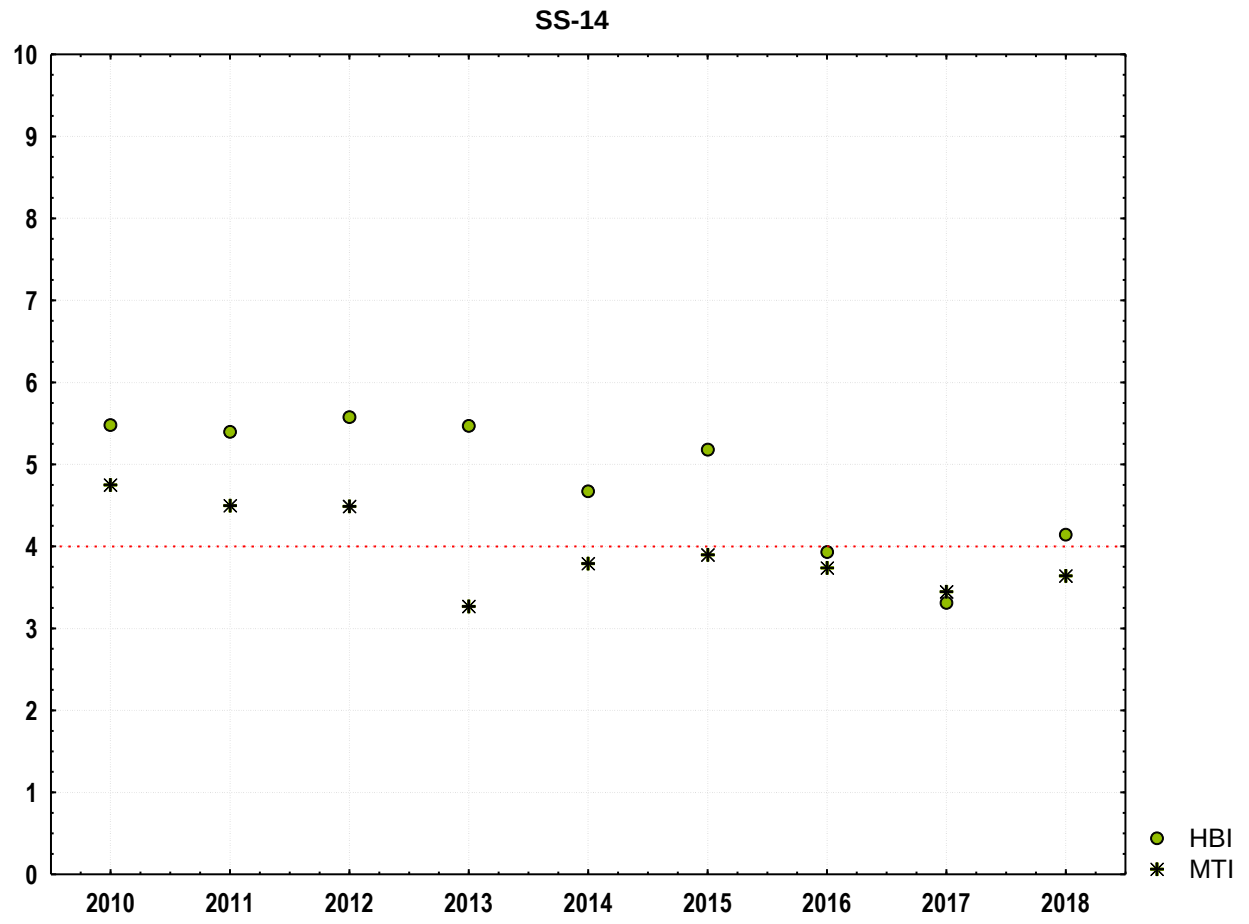

Figure 5-23. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-14D. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.11 SS-15A-2: Silver Bow Creek above German Gulch (Alternate Site)

5.3.3.11.1 Comparisons among Years

Site SS-15A was moved upstream into a remediated reach (Site SS-15A-2) in 2018 (see methods for discussion of the site change). MVFP scores and MTI and HBI scores from 2010 to 2017 at Site SS-15A and in 2018 at Site SS-15A-2 site are graphed in Figure 5-24 and Figure 5-25, respectively. Like Site SS-15A in most previous years, Site SS-15A-2 was moderately impaired in 2018, as measured by the MVFP bioassessment index. Following the score reduction that occurred in 2017 at Site SS-15A, the HBI at Site SS-15A-2 was lower in 2018 with the lowest value ever scored at these sites. According to McGuire's guidance, the MTI indicated no impairment from metals continuing an improvement that began in 2015 (Figure 5-25).

5.3.3.11.2 2018 Data

5.3.3.11.2.1 Water quality

As described above, Site SS-15A was abandoned, and replaced by Site SS-15A-2 in 2018 (see methods section for details). Indicators of water quality at the Silver Bow Creek site above German Gulch site gave mixed results in 2018. Only one mayfly taxon was found in this sample; however, it was abundant (*Baetis tricaudatus* complex; 9.7 percent). No pollution-sensitive taxa were collected and the relative abundance of pollution-tolerant organisms (8.5 percent) was somewhat above expectations. In addition, the relative abundance of collector-filterers (15.9 percent) was slightly above expectations. However, the HBI (2.53) provided no evidence for water quality impairment through organic pollution and no hemoglobin-bearing organisms were reported from this sample. The mixed results for water quality impairment suggested that slight impairment through nutrient enrichment cannot be dismissed at this site in spite of the low HBI. The MTI (2.60) was not indicative of metals pollution. In fact, the metals-intolerant caddisfly *Lepidostoma* species (48.8 percent) was the dominant animal in the assemblage.

5.3.3.11.2.2 Thermal condition

The temperature preference of the assemblage was 16.6 C. No cold-stenotherm taxa were collected, and a few warm-water preferring taxa were present (i.e., *Helicopsyche,* 1.9 percent; *Oecetis*, 1.0 percent).

5.3.3.11.2.3 Sediment deposition

Eleven "clinger" and six caddisfly taxa were collected at Site SS-15A-2. Four of the caddisfly taxa were abundant (i.e., *Lepidostoma* species, *Hydropsyche* species (6.8 percent), *Brachycentrus occidentalis* (5.9 percent), *Glossosoma* species (6.1 percent)). However, the FSBI-2000 value of 3.32 indicated a sediment-tolerant assemblage. The FSBI-2012 was 15. Thus, limitation of colonization of stony sediments by the deposition of fine sediments cannot be dismissed at Site SS-15A-2.

5.3.3.11.2.4 Habitat diversity and integrity

Taxa richness (26) was lower than expected thus, instream habitats may have been monotonous or disrupted. *Zapada cinctipes* (0.4 percent), *Isoperla* species (0.2 percent), and *Skwala* species (1.1 percent) were the three stonefly taxa recorded from this site. Although only one other site had stonefly diversity higher than Site SS-15A-2, richness here was still lower than expected: this may be related to disrupted reach-scale habitat features. Three long-lived taxa (*Brachycentrus occidentalis; Optioservus* species, 3.6 percent; *Zaitzevia* species, 0.2 percent) were counted, consequently catastrophic scour, thermal extremes, dewatering, or toxic pollutants probably did not stress the fauna here. Interestingly, shredders (49.2 percent) dominated the functional composition of the assemblage, because of the abundance of the shredding caddisfly *Lepidostoma*. Collector-filterers (15.9 percent), collector-gatherers (17.3 percent) and scrapers (11.8 percent) were also abundant. It seems likely that both allochthonous fine and coarse organic particulate matter, probably a result of algal decomposition in upstream reaches and litter-fall from stream side vegetation, were important energy sources here. It also seems likely that there was some contribution to the food web by autochthonous algal production.

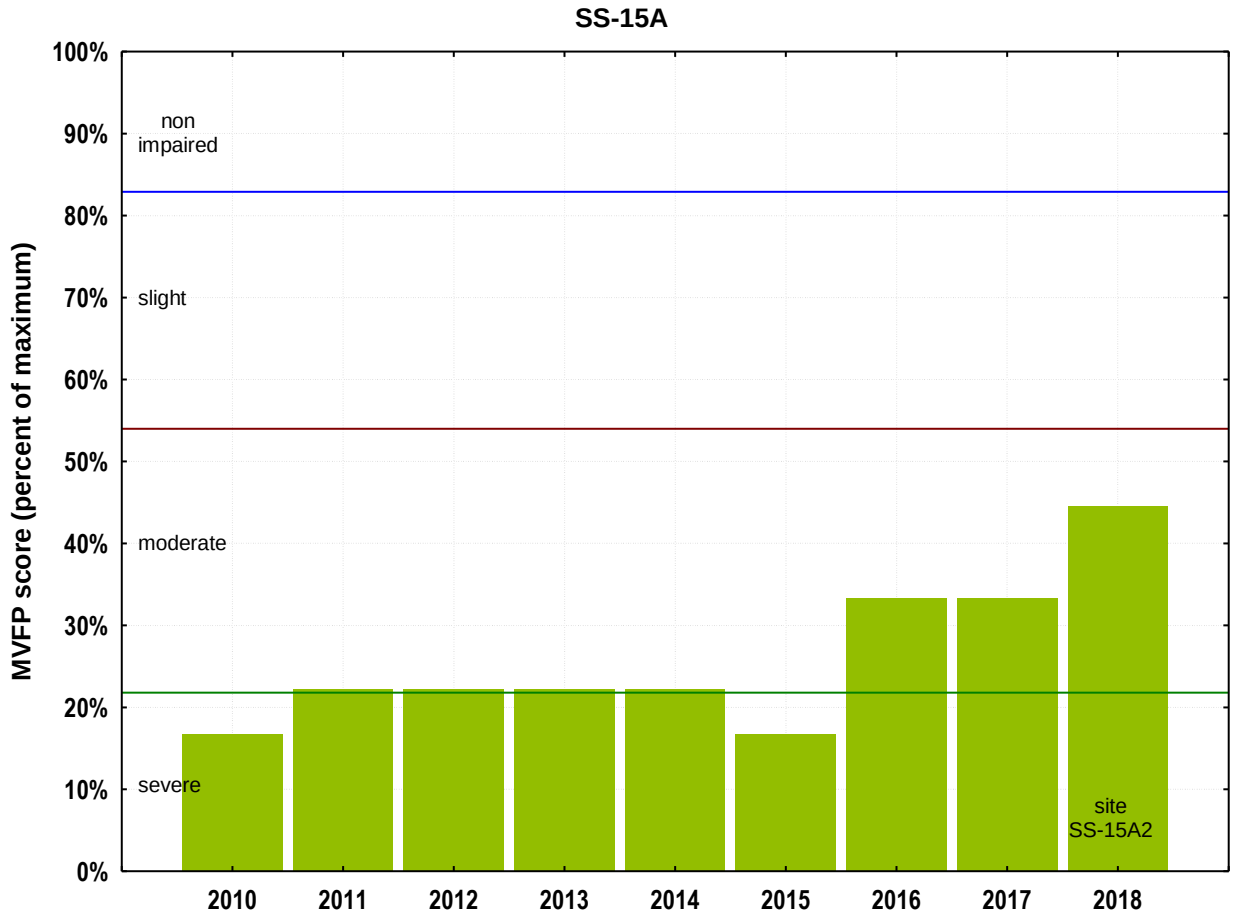

Figure 5-24. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-15A. Bars are labeled with impairment classifications.

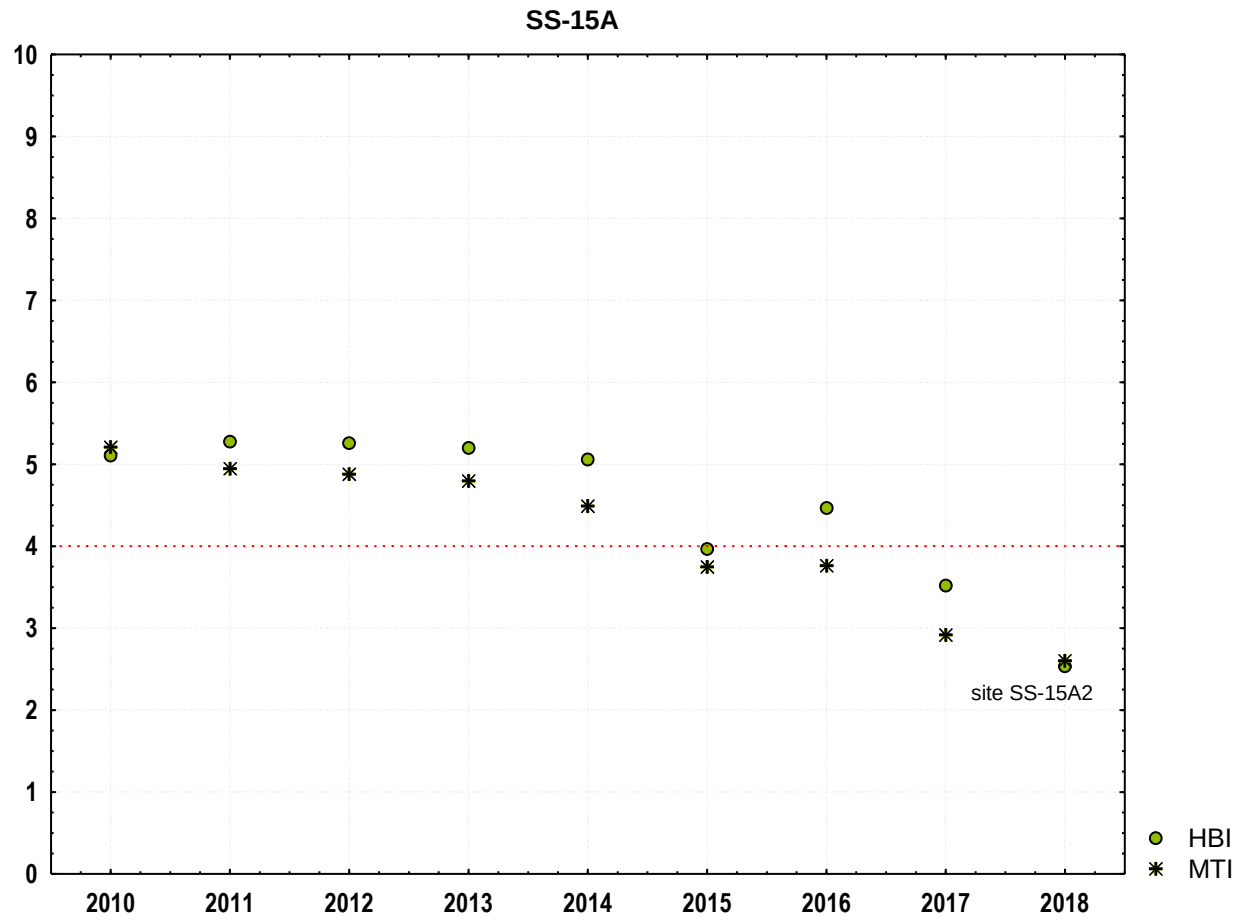

Figure 5-25. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-15A. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.12 SS-15B: Silver Bow Creek below German Gulch

5.3.3.12.1 Comparisons among Years

In 2018, the MVFP score showed moderate impairment at Site SS-15B. MVFP scores have varied over time at this site: slight impairment was indicated in two years, moderate impairment in six years and severe impairment in one year (Figure 5-26). Both the MTI (according to McGuire's guidance) and HBI indicated no impairment in 2018 (Figure 5-27). Both metrics continued trends of consistent improvement in recent years.

5.3.3.12.2 2018 Data

5.3.3.12.2.1 Water quality

Characteristics of the invertebrate fauna provided mixed results concerning water quality at this site. Of the 4 mayfly taxa reported from Site SS-15B, the ubiquitous *Baetis tricaudatus* complex (3.0 percent) was abundant, *Cinygmula* species (0.9 percent) was common and *Drunella* species (0.2 percent) and *Rhithrogena* species (0.2 percent) were rare. The HBI (2.50) indicated an assemblage that was probably not impacted by organic pollution and there were no hemoglobin-bearing organisms in the sample. However, the percentages of collector-filterers (31.2 percent), primarily made up of the caddisfly *Hydropsyche* species (27.0 percent, the most abundant animal in the collection), were above expectations. Pollution-tolerant organisms (5.8 percent) were slightly above expectations, but they did not overwhelm the composition of the assemblage. No pollution-sensitive taxa were collected. Given that no pollution sensitive taxa were collected, that mayfly diversity was slightly lower than expected, and that collector-filterers and pollution tolerant organisms made up significant percentages of the assemblage, slight water quality impairment cannot be ruled out. However, most indicators suggested that water quality was improved compared to upstream sites. A low MTI (2.97), high abundance of the caddisfly *Lepidostoma* species (25.7 percent), and the presence of the heptageniid mayflies *Cinygmula* and *Rhithrogena* suggested that metals contamination was not influential.

5.3.3.12.2.2 Thermal condition

No cold-loving taxa were reported; however, few warm-water loving organisms were found. The temperature preference calculated for this assemblage was 14.3 C, which was the second lowest calculated temperature preference in 2018.

5.3.3.12.2.3 Sediment deposition

Twenty "clinger" and nine caddisfly taxa were found in this sample. Some of the caddisfly taxa were very abundant (e.g., *Hydropysche*, *Lepidostoma*). The FSBI-2000 was 4.37 indicating a moderately sediment-tolerant assemblage. However, the FSBI-2012 was 110. Fine sediments are typically less than 30 percent of the stream bottom when sites have an FSBI-2012 score near this value. Consequently, it appeared likely that sediment deposition did not influence invertebrate colonization in this reach.

5.3.3.12.2.4 Habitat diversity and integrity

Both the perlid stonefly *Hesperoperla pacifica* (0.9 percent) and the nemourid *Zapada cinctipes* (1.5 percent) were collected and taxa richness (33) was lower than expected so streambanks may have been unstable, channel morphology may have been altered, and riparian function may have been poor. It seems unlikely that catastrophes that would limit long life cycles were influential here because seven semivoltine taxa were found. Of the long-lived taxa, the elmid beetle *Optioservus* species (3.2 percent) and the caddisfly *Brachycentrus occidentalis* (1.7 percent) were common. Collector-filterers (31.2 percent), scrapers (29.2 percent), and shredders (27.7 percent) contributed similarly to the functional mix. Collector-gatherers (8.6 percent) were also well represented. These results suggested that both autochthonous materials (algal production within the reach) and allochthonous materials (fine and coarse particulate matter from sources outside the reach) were all important to the food web here.

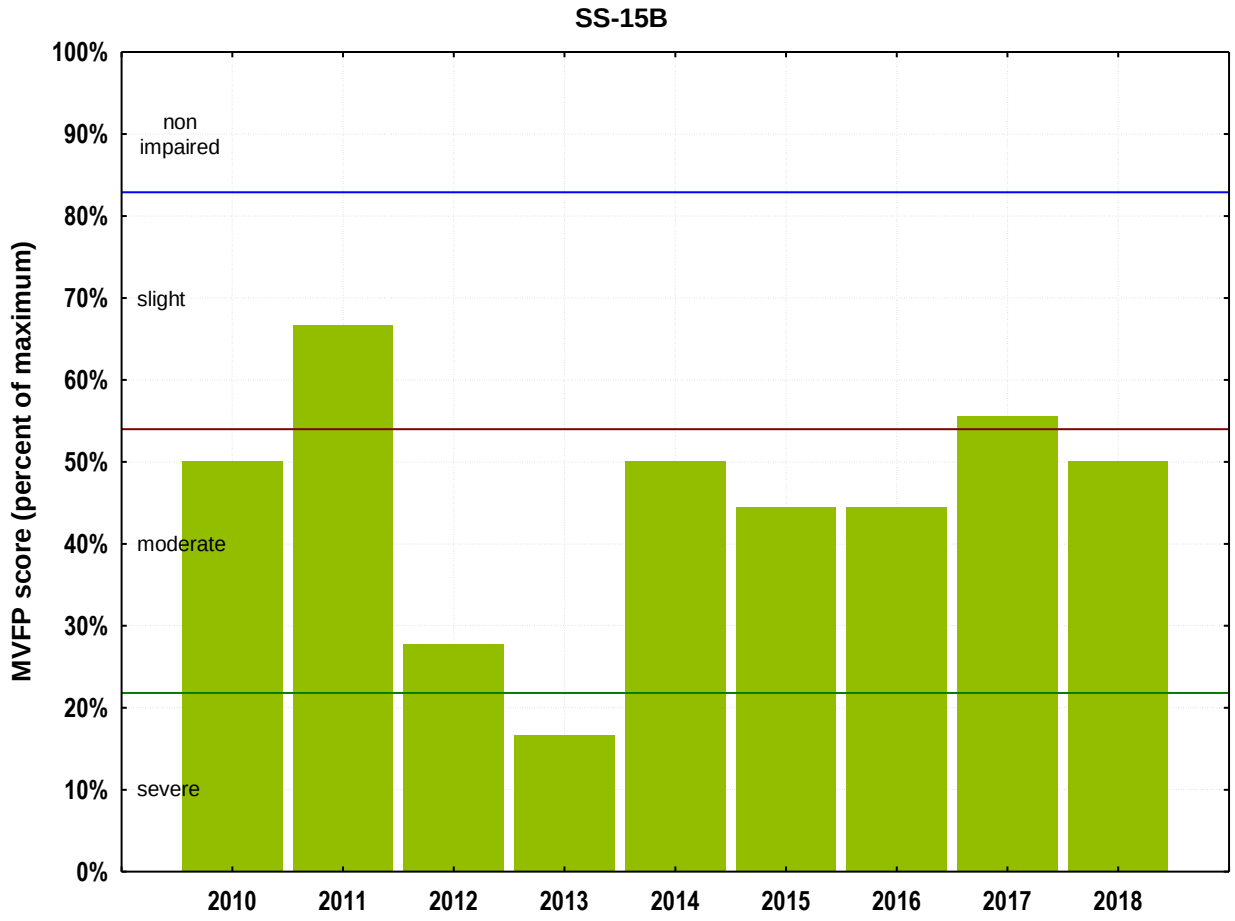

Figure 5-26. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-15B. Bars are labeled with impairment classifications.

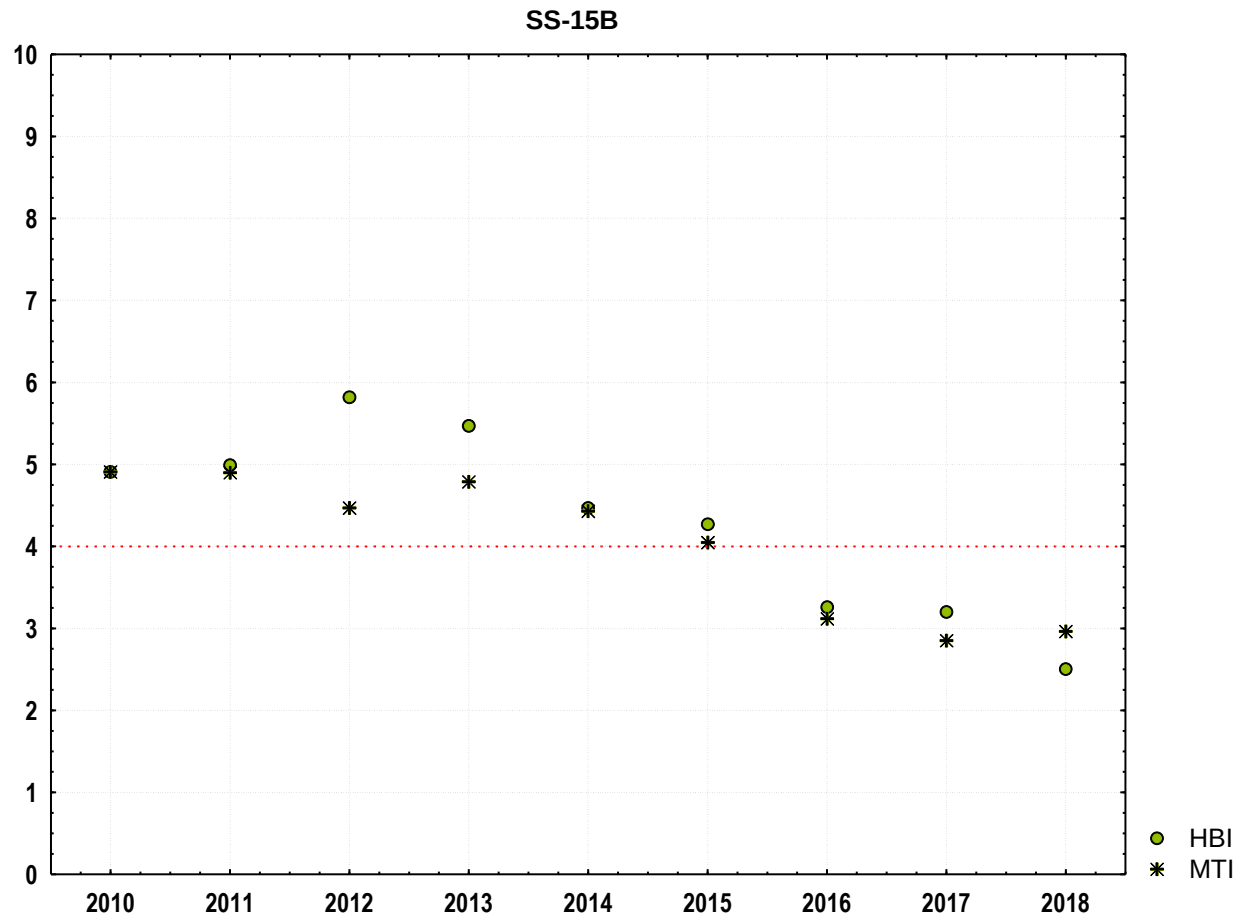

Figure 5-27. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-15B. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.13 SS-15G: German Gulch near Confluence

5.3.3.13.1 Comparisons among Years

MVFP scores at Site SS-15G indicated non-impaired conditions in 2018, which was similar to the ratings that were given to this site from 2010 to 2012 and higher than the slight impairment indicated from 2013 to 2017. Scores are graphed in Figure 5-28. Since 2010, the HBI has consistently indicated no evidence of nutrient enrichment and the MTI, according to McGuire's guidance, has also indicated no evidence of impairment by metals contamination (Figure 5-29).

5.3.3.13.2 2018 Data

5.3.3.13.2.1 Water quality

Most invertebrate characteristics suggested that water quality was good at this site in 2018. Site SS-15G had the greatest number of mayfly taxa (7) recorded from any site in 2018. Mayflies included the abundant heptageniids *Cinygmula* species (10.8 percent) and *Rhithrogena* species (2.2 percent) and *Baetis tricaudatus* complex (8.9 percent) as well as the pollution-sensitive ephemerellids *Drunella doddsii* (0.7 percent), *D. grandis* (0.2 percent) and *Caudatella* sp (0.9 percent). The HBI (3.50) indicated little impact from organic pollution. No hemoglobin-bearing organisms were obtained in this sample. There were also seven pollution-sensitive taxa collected. In addition to the pollution-sensitive mayflies described above, the midge *Cricotopus* (*Nostococladius*) species (0.6 percent), the stoneflies *Doroneuria* species (0.9 percent) and Leuctridae (0.2 percent) and the caddisfly *Dolophilodes* species (1.3 percent) were found. Pollution-tolerant organisms (2.6 percent) made up only a small percentage of the assemblage. The only attribute of the assemblage that indicated poor water quality was the higher than expected percentage of collector-filterers (46.6 percent). This high value was primarily due to the large percentage of blackflies (*Simulium* species, 44.7 percent, the dominant organism in the sample) collected. This gregarious taxon often occurs in large numbers in kicknet collections. The MTI (3.81) was below the threshold indicating metals contamination. This fact, combined with the high abundances of organisms with demonstrated sensitivity to metals, including heptageniid mayflies (*Cinygmula* species was the second most abundant organism in the sample) suggested that metals did not influence this reach.

5.3.3.13.2.2 Thermal condition

Six cold-stenotherm taxa making up 4.7 percent of the assemblage were found in this sample: no cold-loving taxa were reported from any other site in 2018. Consequently, like 2016 and 2017, it is not surprising that the temperature preference of this assemblage (13.3 C) was the lowest of any site studied in 2018.

5.3.3.13.2.3 Sediment deposition

Six caddisfly taxa (3 were abundant or common) and 21 "clinger" taxa were found in this sample. The FSBI-2000 (4.23) indicated an assemblage with moderate sediment tolerance and

the FSBI-2012 was 160. The high FSBI-2012 suggested that the stream bottom sediments were made up of less than 20 percent fine material. Sediment deposition probably did not appreciably limit colonization of stony substrates in this reach.

5.3.3.13.2.4 Habitat diversity and integrity

Overall taxa richness (40) was only somewhat lower than expected and seven stonefly taxa were collected, including the common *Zapada cinctipes* (2.4 percent) and *Hesperoperla pacifica* (3.9 percent). Thus, it seems unlikely that instream and reach-scale habitat features such as streambanks, channel morphology, and riparian zone function were somewhat disturbed. Catastrophes that would abort long life cycles were probably not influential here as seven semivoltine taxa were found in this sample and some of them were abundant (e.g., *H. pacifica;* the caddisfly *Arctopsyche* species, 2.4 percent). Collector-filterers (46.6 percent) were the most abundant functional group. All other functional components were represented in apparently appropriate proportions. These results suggested that both autochthonous (instream algal production) and allochthonous (fine and coarse particulate organic matter from upstream and riparian zones) energy sources were important in this reach.

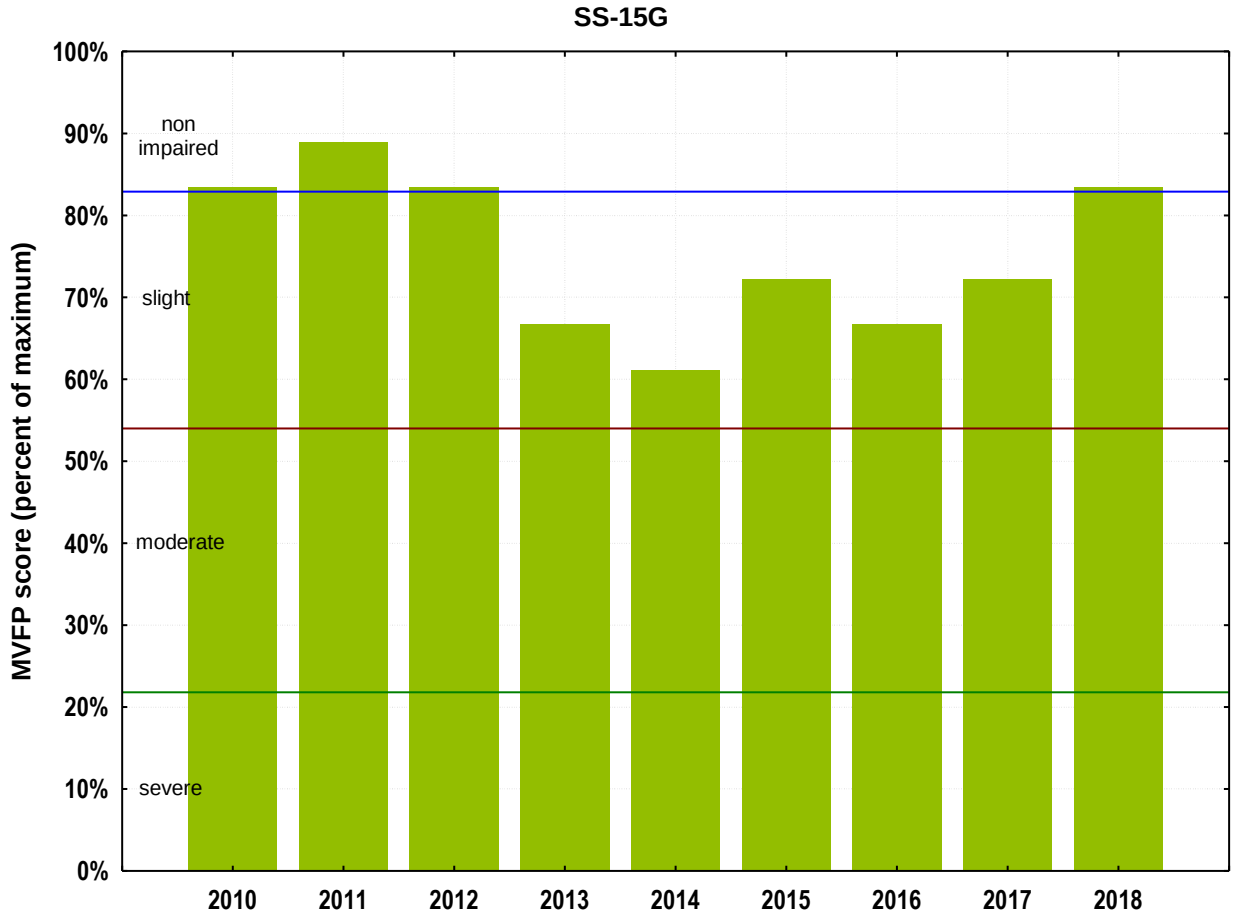

Figure 5-28. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-15G. Bars are labeled with impairment classifications.

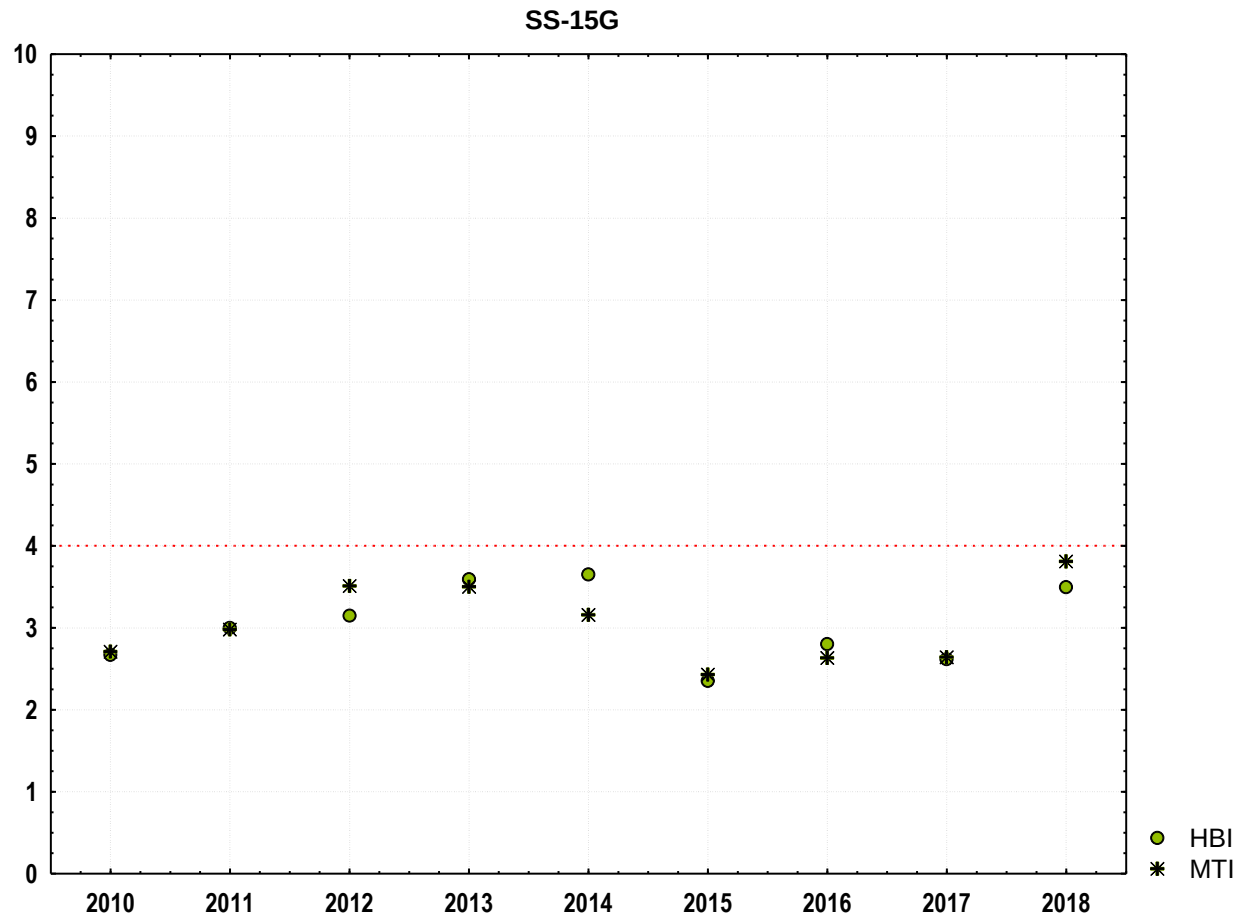

Figure 5-29. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-15G. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.14 SS-16B: Silver Bow Creek in Reach P near Fairmont

5.3.3.14.1 Comparisons among Years

Like 2106 and 2017, the MVFP index indicated moderate impairment in 2018 at Site SS-16B. This site was rated as severely impaired from 2013 (the first year samples were taken here) to 2015 (Figure 5-30). In 2018, the HBI fell below the threshold indicating impairment by nutrient enrichment. The HBI scored below this threshold in all years but 2017. Similarly, the MTI (according to McGuire's guidance) indicated no impairment by metals contamination in 2018 and 2013 to 2016 with slight impairment only indicated in 2017 (Figure 5-31).

5.3.3.14.2 2018 Data

5.3.3.14.2.1 Water quality

Water quality degradation cannot be ruled out in this reach based on the ecological attributes of the invertebrate assemblage collected in 2018. Several characteristics suggested that water quality was impaired. Mayflies were represented by only two taxa, *Baetis tricaudatus* complex (0.6 percent) and *Drunella* sp, (1.0 percent). Collector-filterers (21.6 percent) were abundant. No pollution-sensitive taxa were collected and the abundance of pollution-tolerant organisms (19.9 percent) exceeded expectations. In addition, hemoglobin-bearing organisms made up 0.08 percent of the assemblage so hypoxic sediments cannot be ruled out. However, the HBI (2.07) was low. The MTI (2.26) was also low, and the caddisfly *Lepidostoma* species (49.1 percent) was the most abundant animal in the sample: these findings suggest that metals contamination did not influence this reach.

5.3.3.14.2.2 Thermal condition

No cold-stenotherm taxa were found in the sample and organisms that prefer warm water, including the caddisflies *Helicopsyche* species (10.3 percent) and *Oecetis* species (1.3 percent), were collected. The temperature preference calculated for the assemblage at this site was 15.9 C.

5.3.3.14.2.3 Sediment deposition

An FSBI-2000 of 3.27 suggested that the assemblage was sediment-tolerant and an FSBI-2012 of 20 did not contradict this hypothesis. However, nine caddisfly taxa, several of which were abundant, and 14 "clinger" taxa were counted from the sample. Given this information, it appeared that slight impediment of invertebrate colonization of this reach by fine sediment cannot be ruled out here in 2018.

5.3.3.14.2.4 Habitat diversity and integrity

Overall taxa richness (23) was low: instream habitats may have been monotonous or disrupted. Only one specimen of one stonefly taxon (*Skwala* species) was found here: this may be related to altered channel morphology, loss of riparian function, or unstable streambanks. There were three long-lived taxa in the sample: *Brachycentrus occidentalis* (12.0 percent), *Optioservus* species (4.4 percent) and *Zaitzevia* species (0.2 percent). Consequently, catastrophes such as dewatering, scour, toxic pollutants, or thermal extremes appeared to be unlikely at this site. Shredders (49.1

percent) were the dominant functional group as a result of the abundance of the caddisfly *Lepidostoma* species Other functional groups occurred in expected proportions.

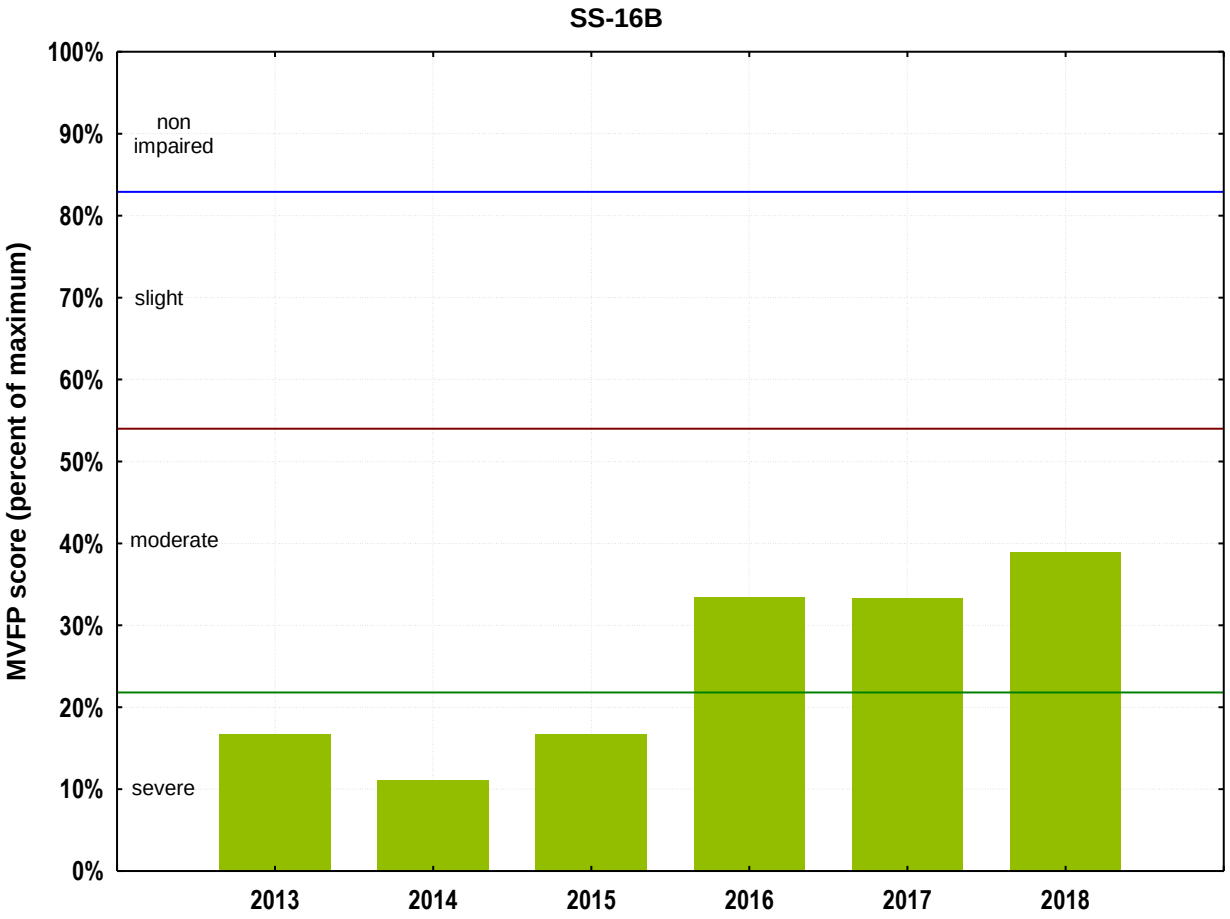

Figure 5-30. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-16B. Bars are labeled with impairment classifications.

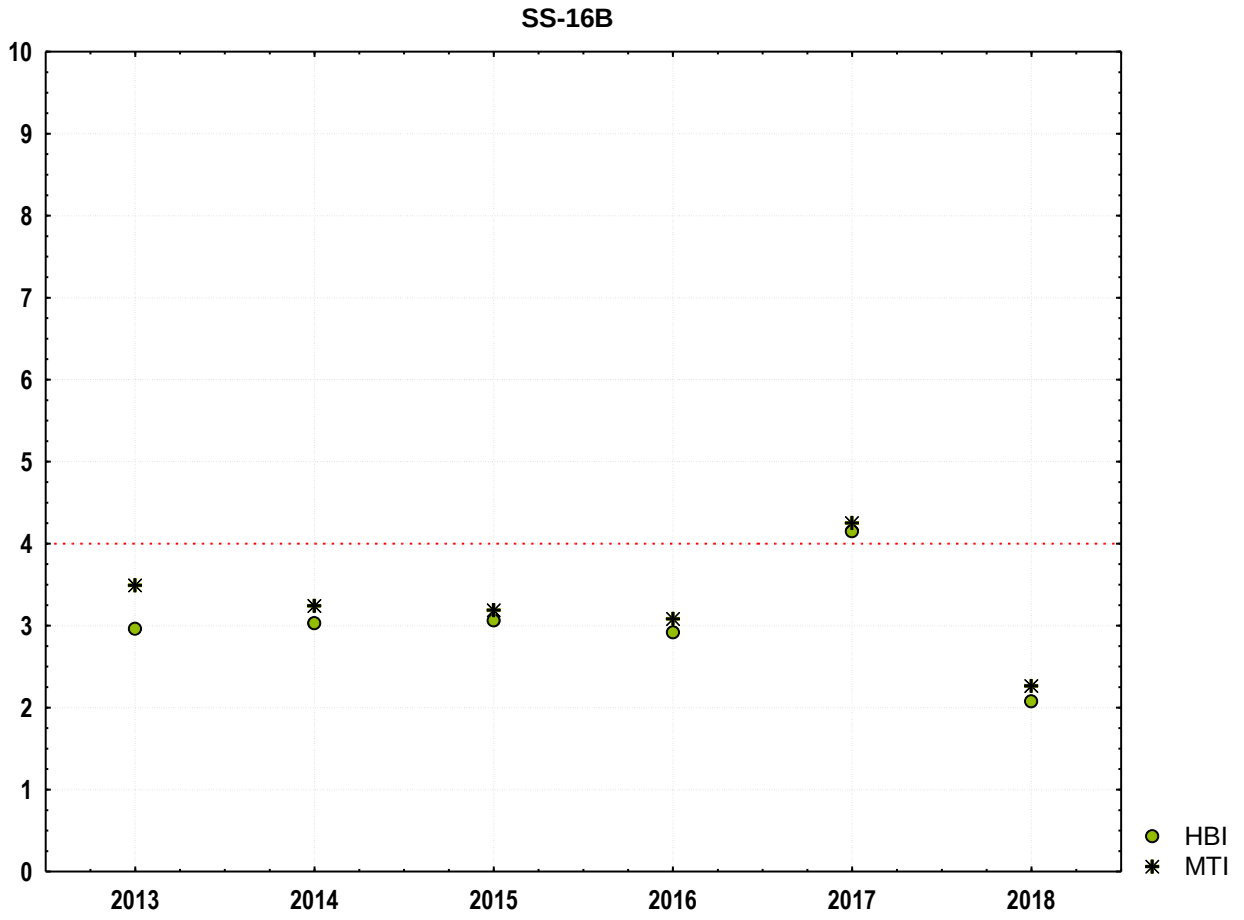

Figure 5-31. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-16B. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.15 SS-17D: Silver Bow Creek below Stewart Street at Opportunity

5.3.3.15.1 Comparisons among Years

The MVFP indicated moderate impairment at Site SS-17D in 2018 and in eight out of the nine years the site has been sampled: only in 2012 was the site rated as severely impaired (Figure 5-32). In 2018, the HBI and MTI metrics indicated no impairment by nutrient enrichment or metals contamination at this site according to McGuire's guidance (Figure 5-33). In most other years, these metrics varied between unimpaired to slightly impaired.

5.3.3.15.2 2018 Data

5.3.3.15.2.1 Water quality

Similar to Site SS-16B, water quality degradation cannot be dismissed at Site SS-17D as attributes of the invertebrate assemblage gave mixed results. Only one mayfly taxon was recorded (*Baetis tricaudatus* complex) and it was represented by only two specimens (0.4 percent). No pollution-sensitive taxa were collected and pollution-tolerant organisms (8.2 percent) slightly exceeded expectations. Collector-filterers (17.7 percent) also exceeded expectations. Sediments may have been hypoxic at times because hemoglobin-bearing organisms (1.5 percent) were common. On the other hand, the HBI (1.52) indicated little impact from organic pollution. However, given the balance of invertebrate metrics, impairment through nutrient enrichment cannot be dismissed at this site. The MTI (2.18) did not indicate impairment by metals, a conclusion that is also supported by the abundance of organisms that are sensitive to metals (i.e., *Lepidostoma* species, 39.2 percent, the most abundant taxon in the sample).

5.3.3.15.2.2 Thermal condition

The temperature preference of the assemblage was calculated at 15.7 C. No cold-stenotherm taxa were collected and organisms that prefer warm water, including the caddisflies *Helicopsyche* species (1.7 percent) and *Oecetis* species (0.4 percent), were reported from this sample.

5.3.3.15.2.3 Sediment deposition

The FSBI-2000 value (3.96) indicated a moderately sediment-tolerant assemblage. The FSBI-2012 was 10. Seven caddisfly taxa, including *Lepidostoma* species and *Glossosoma* species (32.1 percent), the two most abundant taxa in the sample, and 11 "clinger" taxa were counted. Colonization of stony substrates by invertebrates may have been slightly impeded.

5.3.3.15.2.4 Habitat diversity and integrity

Overall taxa richness (26) was below expectations for a low-to-mid order stream in the Middle Rockies ecoregion, suggesting that instream habitats may have been monotonous or disturbed in this reach. Only two stonefly taxa, the perlodids *Skwala* species (1.3 percent) and *Isoperla* species (0.2 percent), were reported from the sample, suggesting that reach-scale habitat features such as streambanks, channel morphology, or riparian function may have been disturbed. Three semivoltine taxa were collected: of these, *Optioservus* species (3.0 percent) and *Brachycentrus occidentalis* (8.0 percent) were abundant. Consequently, catastrophes that would interrupt long

life cycles seem unlikely here. Shedders (39.4 percent, primarily *Lepidostoma* sp) and scrapers (37.5 percent, primarily *Glossosoma* species) strongly dominated the functional composition of the assemblage, suggesting that both allochthonous and autochthonous production were important to the food web. Other functional groups were within expectations.

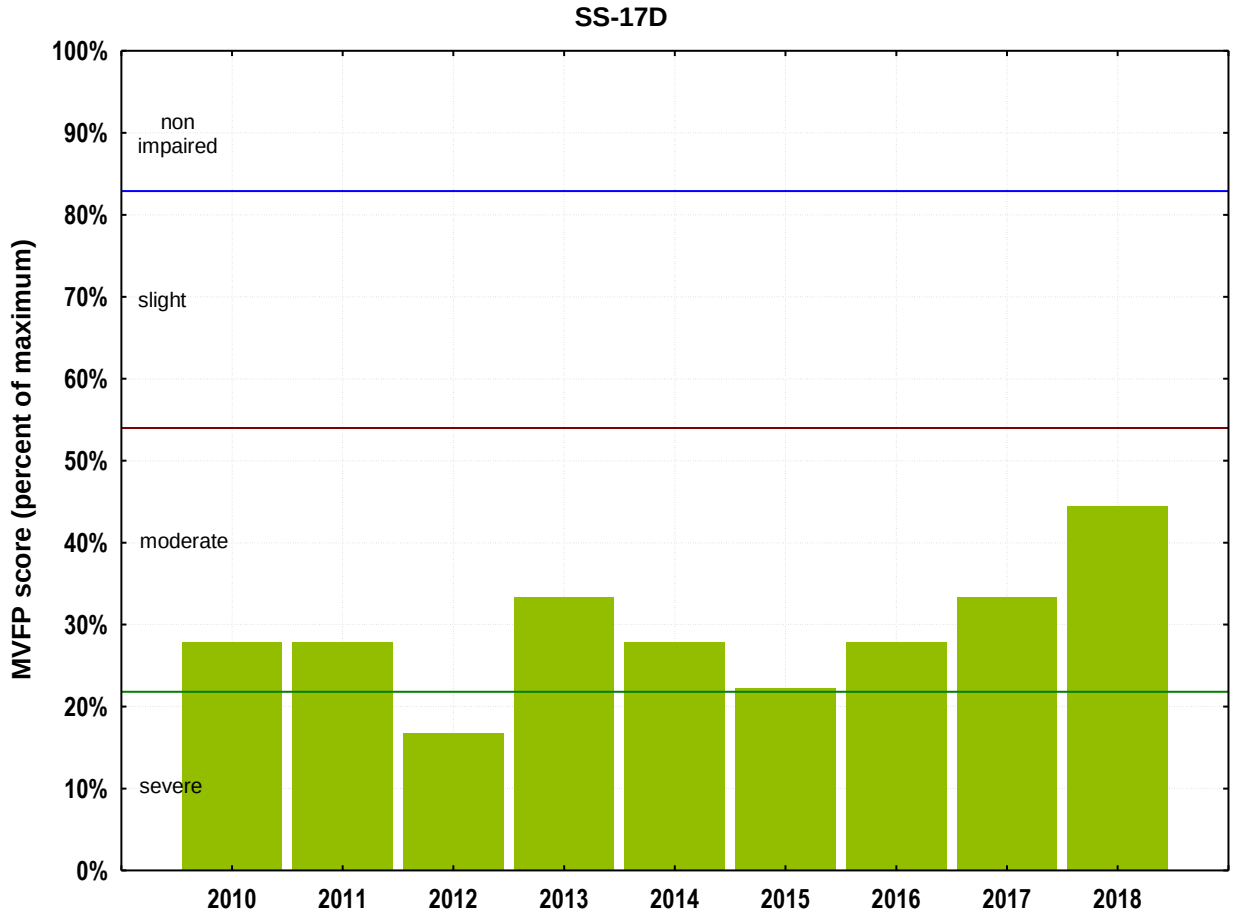

Figure 5-32. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-17D. Bars are labeled with impairment classifications.

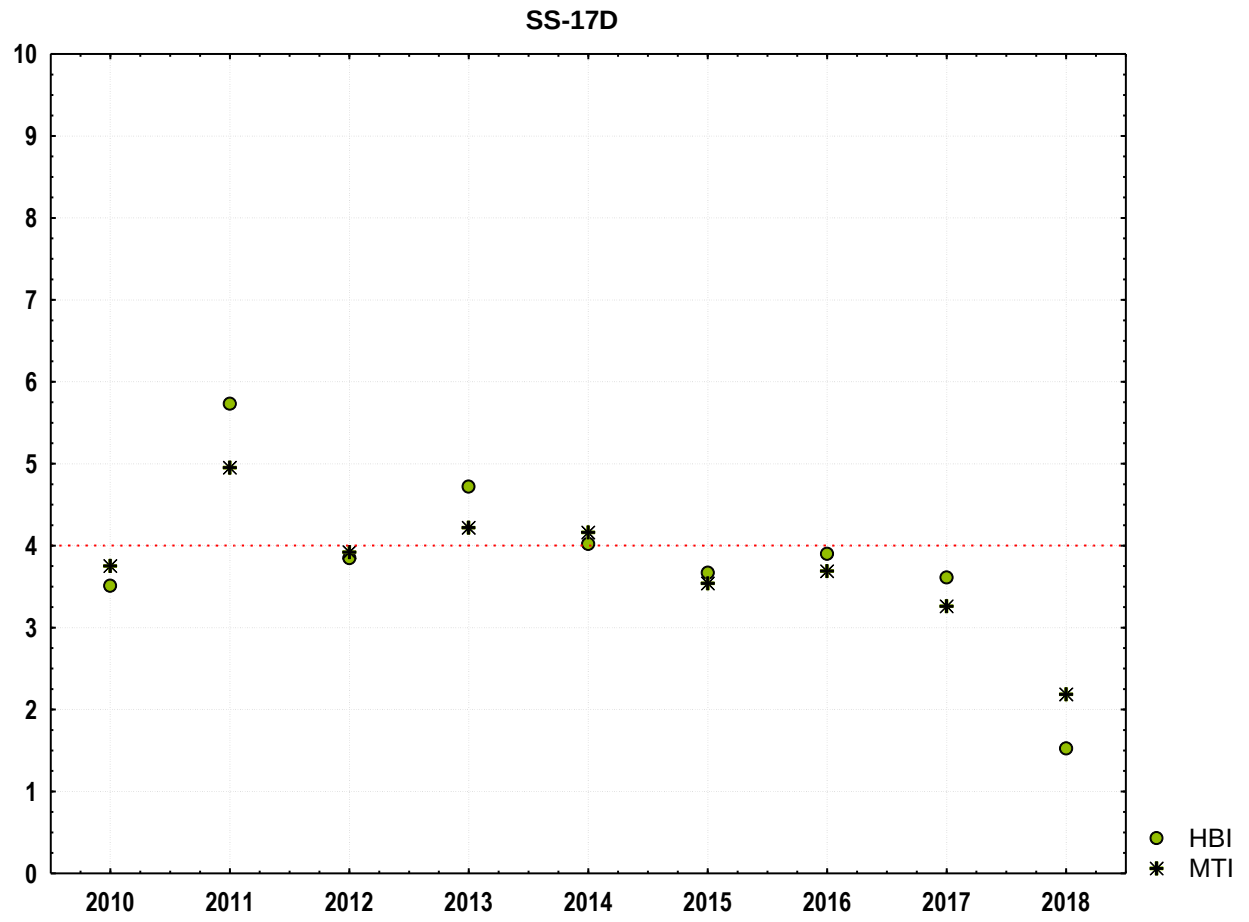

Figure 5-33. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-17D. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.3.3.16 SS-19: Silver Bow Creek at Frontage Road

5.3.3.16.1 Comparisons among Years

Moderate impairment continued to be indicated by the MVFP index at Site SS-19 in 2018 (Figure 5-34). Neither the MTI metric (according to McGuire's guidance) nor the HBI index provided evidence for impairment by metals or nutrients in 2018 (Figure 5-35). In previous years these metrics vacillated between slight impact to no impact.

5.3.3.16.2 2018 Data

5.3.3.16.2.1 Water quality

The mayfly fauna recorded from this reach was not diverse (3 taxa) and the taxa were not abundant (*Baetis tricaudatus* complex, 0.8 percent; *Attenella* species, 0.2 percent; *Tricorythodes* species, 1.0 percent). The HBI (2.77) suggested that the assemblage was not impacted by organic pollution. However, pollution-tolerant organisms made up 17.0 percent of the sample and no pollution-sensitive taxa were collected. The percentage of filter-feeders (31.8 percent) was above expectations, and hemoglobin-bearing taxa (7.1 percent), including the midge *Microtendipes* species (6.5 percent), were very common in this assemblage. These findings suggest that water quality impairment through nutrient enrichment cannot be ruled out here, and that there was additional stress associated with hypoxic conditions in the sediment. Contamination by metals was not indicated because the MTI (2.71) was low and the caddisfly *Lepidostoma* species (41.0 percent) was abundant in the sample.

5.3.3.16.2.2 Thermal condition

Similar to most sites, no cold-stenotherm taxa were recorded here. The temperature preference of the assemblage was 16.8 C. Warm-water loving taxa (e.g., *Helicopsyche* species, 8.0 percent) were abundant.

5.3.3.16.2.3 Sediment deposition

Seven caddisfly taxa (6 were abundant) and 11 "clinger" taxa were found in this sample. The FSBI-2000 value (3.46) indicated a sediment-tolerant assemblage. The FSBI-2012 was 20. Given the low value for the FSBI-2000, the negative effects of fine sediment deposition on colonization of stony sediments by invertebrates cannot be ruled out here.

5.3.3.16.2.4 Habitat diversity and integrity

Overall taxa richness (24) was lower than expected and only two stonefly taxa were collected; neither of them (*Isoperla* species, 0.4 percent; *Skwala* species, 0.4 percent) were common. Consequently, monotonous or disturbed instream habitats and unstable streambanks, loss of riparian function, or altered channel morphology were suggested. Catastrophic dewatering, thermal extremes, sediment pulses or toxic inputs were probably unlikely because three long-lived taxa were collected, including the caddisfly *Brachycentrus occidentalis* (11.8 percent) and the elmid beetle *Optioservus* species (6.1 percent). Shredders (41.0 percent) and collector-filterers (31.8 percent) dominated the functional composition of the assemblage and all other functional

groups were well represented. Thus, both fine and coarse particulate matter and instream algal production appeared to be the important energy sources in this reach.

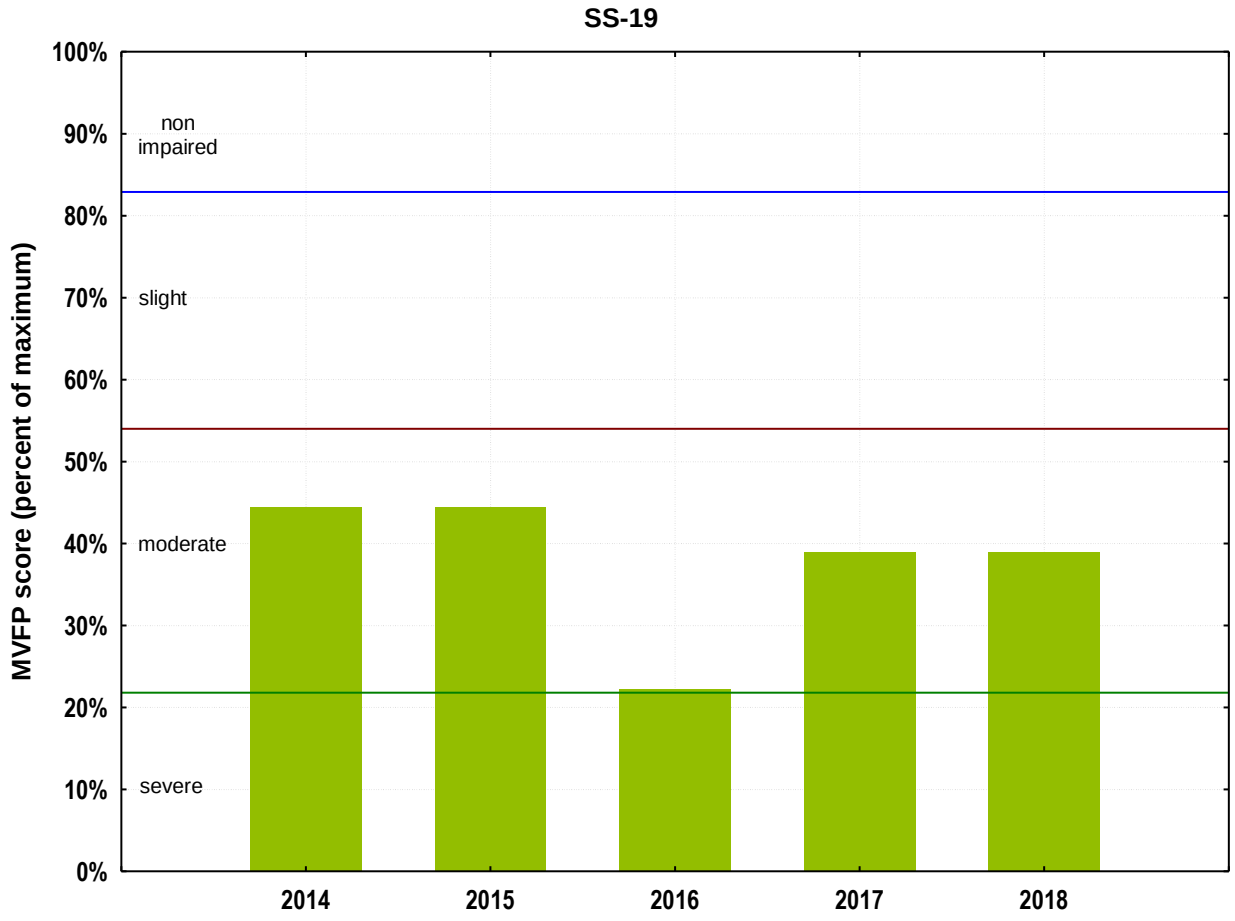

Figure 5-34. Montana Valley and Foothill Prairies (MVFP) bioassessment scores: comparison among years for Site SS-19. Bars are labeled with impairment classifications.

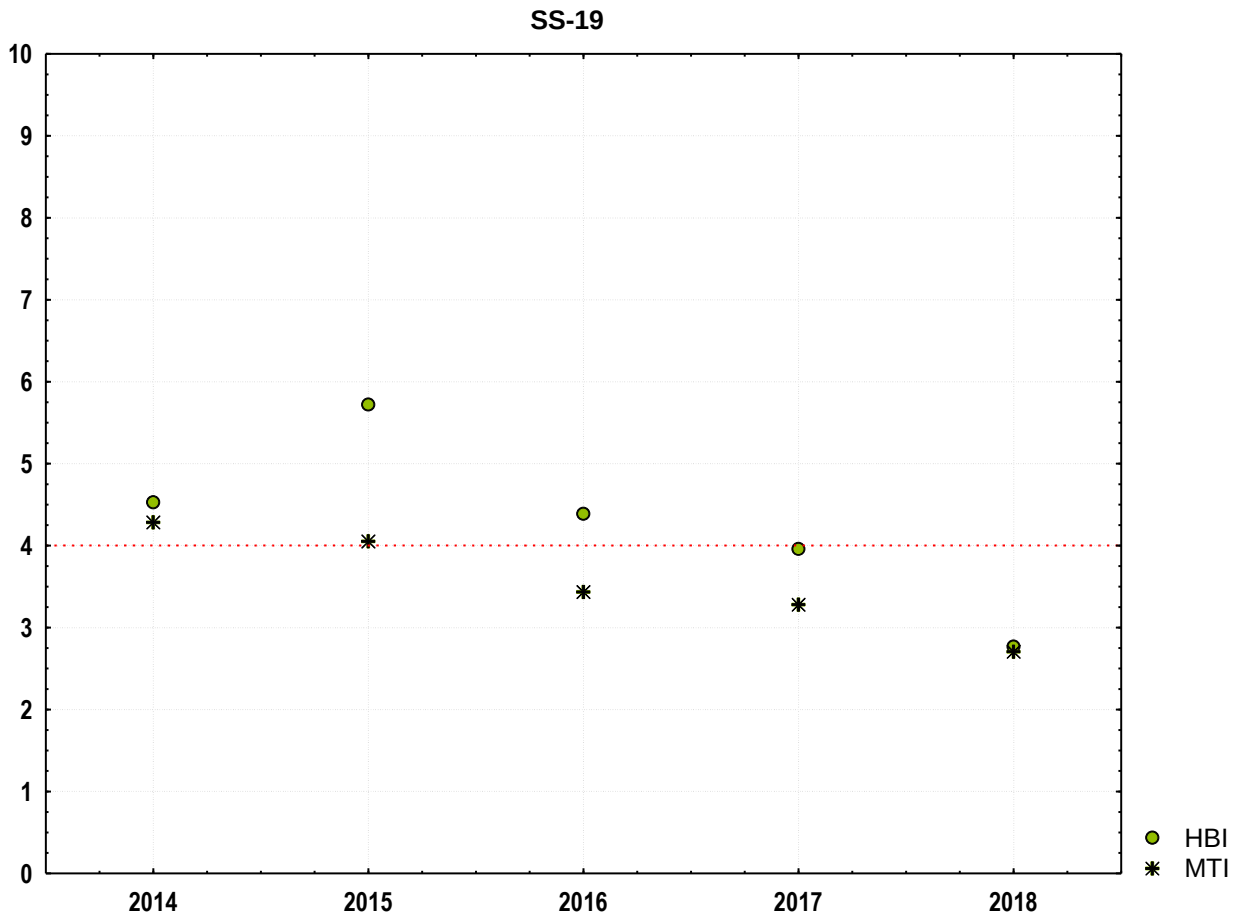

Figure 5-35. Hilsenhoff Biotic Index (HBI) and metals tolerance index (MTI) values: comparison among years for Site SS-19. The red dashed line represents the "no impact" threshold for both metrics established by McGuire for the Clark Fork River basin.

5.4 DISCUSSION

Based on the evidence from the aquatic invertebrate assemblages, the MVFP index indicated that biological integrity was impaired at all sites except Site SS-15G, whereas the O/E index indicated that all sites were impaired in 2018. Of the sites classified as impaired by the MVFP index, moderate impairment was indicated at all sites except Site SS-08 which was categorized as severely impaired (Table 5-6; Figure 5-1). Table 5-7 summarizes the probable stressors judged to be influential, based on the taxonomic composition and attributes (function, tolerance, physiology, habitus, etc.) of organisms identified at each site.

Aquatic invertebrate assemblages generally suggested that at least a portion of the impaired biological integrity indicated at all sites except at German Gulch near confluence (Site SS-15G) was the result of nutrient enrichment. From the upstream-most site (Blacktail Creek at Father Sheehan Park (Site SS-01)) through Miles Crossing (Site SS-14D), water quality appeared impaired by nutrient enrichment. There was some indication of nutrient enrichment at Silver Bow above (Site SS-15A-2) and below (Site SS-15B) German Gulch and sites SS-16B (Silver Bow in Reach P near Fairmont through Site SS-19 (Silver Bow Creek at Frontage Road); however, not all invertebrate indicators suggested nutrient enrichment at these locations.

Hypoxic sediments were indicated at the most upstream site (Blacktail Creek at Father Sheehan Park; Site SS-01) and could not be ruled out at Silver Bow Creek above the Butte Reduction Works (Site SS-05A) and at Silver Bow Creek at Rocker (Site SS-08). Beginning with Site SS-10A (Silver Bow Creek above Sand Creek), hypoxic sediments were suggested at all sites through Site SS-14D (Silver Bow Creek at Miles Crossing). Hypoxic conditions could not be ruled out in Reach P near Fairmont (Site SS-16B) and was indicated at the site below Stewart St Opportunity (Site SS-17D) and at the Frontage Road (Site SS-19).

Evidence for the influence of sediment deposition was equivocal at all sites: however, the combination of invertebrate attributes at most sites suggested that slight inhibition of colonization of invertebrates by fine sediment could not be ruled out. General trends were that caddisfly taxa richness was within expectations or slightly lower than expectations at most sites, whereas “clinger” taxa richness tended to be quite a bit lower at most sites. The Fine Sediment Biotic Index (FSBI-2000) indicated sediment-tolerant or moderately sediment-tolerant assemblages at all sites except Blacktail Creek at Father Sheehan Park (Site SS-01). Only at sites SS-15B (Silver Bow below German Gulch) and SS-15G (German Gulch near confluence) was “clinger” taxa richness high and the FSBI-2012 did not indicate significant fine sediment deposition.

Based on the performance of the Metals Tolerance Index (MTI) and the taxonomic composition of the aquatic invertebrate fauna, evidence for the influence of metals contamination was detected at Site SS-01 through Site SS-10A. In addition, the MTI was slightly elevated at Site SS-11C.

Investigation of the invertebrate assemblages suggested that the habitat was disrupted at most sites. No habitat disruption was indicated at German Gulch (Site SS-15G). In addition, only

at Silver Bow Creek below Browns Gulch (Site SS-11D) and Silver Bow Creek at the Frontage Road (Site SS-19) was the faunal evidence equivocal about whether habitat disruption was influential.

Table 5-7. Predicted stressors at each site, based on the taxonomic composition and attributes of biological assemblages.[54]

Site ID	Site Location	Habitat Parameter				
		Nutrients	Metals	Sediments	Hypoxia	Habitat Disruption
SS-01	Blacktail Creek at Father Sheehan Park	m	m	?m	m	
SS-05A	Silver Bow Creek above Butte Reduction Works	m	m	?m	?m	
SS-06G	Silver Bow Creek above Butte WWTP	m	m	?m		m
SS-07	Silver Bow Creek below Butte WWTP	m	m	?m		m
SS-08	Silver Bow Creek at Rocker	m	m	?m	?m	m
SS-10A	Silver Bow Creek above Sand Creek	m	?m	m	m	
SS-11C	Silver Bow Creek above Browns Gulch	?m	?m			
SS-11D	Silver Bow Creek below Browns Gulch		?m	m	?m	
SS-13	Silver Bow Creek in Reach L		?m	m	m	
SS-14D	Silver Bow Creek at Miles Crossing		?m	m	m	
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)		?m		m	
SS-15B	Silver Bow Creek below German Gulch				m	
SS-15G	German Gulch near confluence					
SS-16B	Silver Bow Creek in Reach P near Fairmont		?m	?m		
SS-17D	Silver Bow Creek below Stewart St Opportunity		?m		m	
SS-19	Silver Bow Creek at Frontage Road	?m		?m	m	?m

[54] Scores: m = macroinvertebrate sample indicates stress, ?m = macroinvertebrate sample inconclusive.

6.0 PERIPHYTON[55]

6.1 INTRODUCTION

Silver Bow Creek is a tributary to the Clark Fork River that extends from Butte, Montana approximately 23 miles downstream to the Warm Springs Ponds just north of Opportunity, Montana. Silver Bow Creek was impacted by mining waste and municipal sewage inputs from the 1870s through the 1980s. The earliest impacts resulted from underground mining and included waste rock, slag, and mill tailings that were deposited directly into the stream. In 1908 a major flood redistributed the waste rock and tailings downstream throughout the channel and floodplain. Mining efforts in the area shifted to open-pit operations with the 1955 opening of the Berkeley Pit mine near Butte. Open-pit mining ceased in the Berkeley Pit in 1982; however, copper precipitate is currently mined from the waters of the Berkeley Pit and mining continues in the nearby Continental Pit (molybdenum and copper). The ancestral headwaters of Silver Bow Creek have now been entirely subsumed into the Berkeley and Continental Pits and the city of Butte metro sewer system.

Silver Bow Creek and its adjacent floodplain have undergone major remediation that included excavation and removal of tailings and impacted soils from the floodplain, replacement of the removed tailings with local fill material, seeding and planting of vegetation, and reconstruction of the stream channel. Major remediation was completed in all subareas during 2017, but minor remedial actions occurred in Subareas 1 and 2 to remove some remnant tailings. The portion of the creek and its adjacent floodplain undergoing remediation is designated the Streamside Tailings Operable Unit (SSTOU) and is divided into four subareas. Remediation has already been accomplished in some subareas. A plan was established to monitor several factors as remediation progressed including surface water, instream sediments, geomorphology, groundwater, and aquatic biologic resources including periphyton (benthic algae).

This report describes results of periphyton monitoring in 2018 within the SSTOU of the Silver Bow Creek/Butte Area National Priorities List site. A total of 16 sites were sampled, including 14 sites on Silver Bow Creek, one site on German Gulch, and one site on Blacktail Creek. One site, Silver Bow Creek below Sand Creek (Site SS-10B) was eliminated from the monitoring network in 2017. In addition, the long-term monitoring site in Silver Bow Creek above German Gulch (Site SS-15A) was discontinued and replaced by an alternate site (Site SS-15A-2), which was located approximately 150 m upstream in 2018. This change occurred because Site SS-15A was thought to not represent most of the stream channel condition in Subarea 3 above German Gulch. Site SS-15A is in a short (approximately 0.3 stream km), narrow, bedrock chute with residual tailings. This portion of the floodplain was not remediated because removal of the tailings in this narrow chute was determined to be not worth the effort given the tight working space and poor access for

[55] Chapter 6 was prepared by W. Bollman and B. Kerans of Rhithron Associates Inc. (Missoula, Montana) with minor editing and formatting by RESPEC.

heavy equipment coupled with the low volume of tailings. All the other streambed and floodplain portions of Subarea 3 above German Gulch (approximately 6.5 stream km) were remediated.

Several approaches were used to examine the periphyton samples. The taxonomy and assemblage structure of non-diatom (soft-bodied) algae and diatom (silica-walled) algae were examined. A suite of analytical metrics was applied to the diatom data to assess the degree of impairment from metals, nutrients, and sedimentation. These metrics included a stressor-specific tool developed for the Middle Rockies Ecoregion [Teply 2010a; 2010b] and adopted by Montana Department of Environmental Quality (DEQ) as a periphyton standard operating procedure for determining the probability of sediment impairment [DEQ, 2011]. In addition, a variety of diatom metrics developed for Montana mountain streams were used [Bahls et al., 1992; Bahls, 1993; Teply and Bahls, 2005]. These metrics were based on autecological preferences or requirements of freshwater diatoms [Lowe, 1974; Van Dam et al., 1994; Bahls, 2006]. Site-specific narratives were also used to describe probable stressors to water quality and habitat integrity. These narratives were based on taxonomic and functional composition of the benthic flora.

6.2 METHODS

6.2.1 Sampling

Periphyton samples were collected at 16 sites on Silver Bow Creek (14 sites), Blacktail Creek (1 site) and German Gulch (1 site) from September 17-21, 2018 (Table 6-1). One composite periphyton sample was collected from multiple substrates and habitat types at each site. Periphyton samples were collected following the DEQ PERI-1 method for flowing streams where a defined reach has not been established [DEQ, 2011]. Periphyton samples were preserved in the field with Lugols solution and transported to the laboratory on ice.

Table 6-1. Periphyton sampling locations in the Streamside Tailings Operable Unit, September 17-21, 2018.

Site ID	Site Location	Location (GPS coordinates; NAD 83)	
		Latitude	Longitude
SS-01	Blacktail Creek at Father Sheehan Park	45.98523	-112.50772
SS-05A	Silver Bow Creek above Butte Reduction Works	45.99458	-112.55146
SS-06G	Silver Bow Creek above Butte WWTP	45.99650	-112.56300
SS-07	Silver Bow Creek below Butte WWTP	45.99666	-112.56381
SS-08	Silver Bow Creek at Rocker	46.00167	-112.60490
SS-10A	Silver Bow Creek above Sand Creek	46.00375	-112.66084
SS-11C	Silver Bow Creek above Browns Gulch	46.00336	-112.70172
SS-11D	Silver Bow Creek below Browns Gulch	46.00342	-112.70252
SS-13	Silver Bow Creek in Reach L	46.00647	-112.70394
SS-14D	Silver Bow Creek at Miles Crossing	46.01143	-112.72229
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	46.02096	-112.78802
SS-15B	Silver Bow Creek below German Gulch	46.02216	-112.79064
SS-15G	German Gulch near confluence	46.02170	-112.79029
SS-16B	Silver Bow Creek in Reach P near Fairmont	46.05494	-112.79611
SS-17D	Silver Bow Creek below Stewart Street at Opportunity	46.10787	-112.80553
SS-19	Silver Bow Creek at Frontage Road	45.98523	-112.50772

6.2.2 Laboratory Analysis

After the periphyton samples were preserved with Lugols solution and taken to the laboratory, initial sample volumes were measured and recorded. The samples were thoroughly mixed by shaking and split into two aliquots for analyses of soft-bodied algae and diatoms

6.2.2.1 Non-Diatom Algae

For soft-bodied algal samples, the raw periphyton sample was manually homogenized and emptied into a porcelain evaporating dish. A small, random sub-sample of algal material was pipetted into a standard Palmer-Maloney counting chamber using a disposable Pasteur pipette. Visible (macroscopic) algae were also sub-sampled, in proportion to their estimated abundance relative to the total volume of algal material in the sample and added to the liquid fraction on the slide. The Palmer-Maloney cell was then covered with a 22x30 mm coverslip.

Soft-bodied (non-diatom) algae were identified to genus using a Leica DM 2500 compound microscope under 200X and 400X magnification. The relative abundance of each algal genus (and of all diatom genera collectively) was estimated for comparative purposes, according to the following system:

- rare (R): fewer than 1 cell per field of view at 200X, on the average;

- common (C): at least 1 but fewer than 5 cells per field of view;
- very common (VC): between 5 and 25 cells per field of view;
- abundant (A): more than 25 cells per field of view, but countable;
- very abundant (VA): number of cells per field of view too numerous to count.

Algae (all non-diatom genera and the diatoms as one unit) were also ranked according to their estimated contribution to the total algal biovolume present in the sample. The genus (or Division in the case of the diatoms) with the most biomass ranked number 1; the genus with the next most biomass ranked number 2, and so on. Rare (R) taxa were recorded with a biomass rank of 0.

6.2.2.2 Diatom Algae

Permanent diatom slides were prepared: subsamples were taken and treated with 70 percent nitric acid (HNO_3) and digested using a closed-vessel microwave digestion system (Milestone Ethos EZ), following the method developed by the Academy of Natural Sciences, Philadelphia [ANSP, 2002]. The samples were neutralized by rinses with distilled water, and subsample volumes were adjusted to obtain adequate densities for slide mounts. Dilution and concentration factors, as appropriate, were recorded for each sample. Subsamples were dried onto 22-mm square coverslips. Coverslips were mounted on slides using Naphrax diatom mount. To ensure a high-quality mount for identification and to make replicates available for archives, two slide mounts were made from each sample. One of the replicates was selected from each sample batch for identification. A diamond scribe mark was made to define a transect line on the cover slip, and a minimum of 800 diatom valves were identified along the transect mark. A Leica DM 2500 compound microscope, Nomarski contrast, and 1000x magnification were used for identifications. Diatoms were identified to the lowest possible taxonomic level, generally species.

6.2.3 Data Analysis

Results of periphyton taxonomic analyses are summarized using three general approaches: (1) taxa richness and diversity, (2) diatom bioassessment indices, and (3) site-specific narratives that include ecological interpretations of the taxa richness and diversity and bioassessment analyses as well as other pertinent information about the assemblages.

6.2.3.1 Taxa Richness and Diversity

Taxa richness for non-diatom taxa and diatom taxa richness and diversity were examined separately to provide a general understanding of the periphyton assemblages within each sample. Non-diatom taxa richness was summarized by genus within taxonomic division for each site. More detailed summaries of estimated relative abundance and generic diversity within each non-diatom sample are provided in Appendix H. Diatom taxa richness and Shannon diversity were compared in each sample to evaluate general trends among sites. In the case of diatoms, species-level, including variants, were used. Detailed summaries of the diatom assemblages at each site can be found in Appendix I.

6.2.3.2 Diatom Bioassessment Indices

Taxonomic results for diatom sample analysis were used to calculate an array of bioassessment indices within each sample. Three general types of bioassessment tools were applied to each: Increaser Taxa bioindices [DEQ, 2011; Teply, 2010a], Diatom Association Metrics for Montana Mountain Streams [Bahls, 1993], and Ecological Indicator Values of Freshwater Diatoms [Van Dam et al., 1994]. Each bioassessment index generates a value summarizing the degree of impairment to the diatom assemblage at each site. Some indices are designed to represent impairment from specific environmental stressors (e.g., amount of dissolved oxygen) whereas others represent general impairment.

6.2.3.2.1 Increaser Taxa

Each periphyton sample was evaluated according to DEQ's current periphyton standard operating procedure [DEQ, 2011] using "pollutant-diagnosing biometrics based on stressor-specific increaser diatom taxa as described in Teply [2010a; 2010b]". The pollutant-diagnosing biometrics described in DEQ [2011] are known as "increaser taxa" and are specifically designed to diagnose stress from sediments and nutrients. According to DEQ [2011], "the assessment tools have been designed to function properly in the presence (or absence) of the other stressor types". For the Middle Rockies ecoregion, the DEQ has adopted only the sediment biometric. Teply [2010a] also provides guidance for a metal-increaser taxon biometric to diagnose stress from metal contamination although that metal-specific biometric was not adopted by DEQ [2011]. However, because each increaser taxa biometric provides estimates of the probability of impairment for each specific stressor of interest, the impairment probabilities for all 3 biometrics are summarized in this report.

6.2.3.2.2 Diatom Association Metrics for Montana Mountain Streams

In addition to the diatom bioassessment indices, we used seven diatom association metrics to augment assessments of impairment (Table 6-2). Each of these seven diatom association metrics provides a general measure of environmental impairment to the diatom assemblage. Results from each site were tabulated and sites were rated on impairment based on the criteria listed in Table 6-2. We also combined these additional metrics into an index that evaluates overall biointegrity at each site. The following paragraphs summarize each metric.

Species richness is a common measure of environmental impairment with greater richness generally reflecting more heterogeneous environmental conditions. Low taxa richness generally reflects environmental homogeneity, which may be the result of several specific stressors such as metal contamination or nutrient enrichment. Bahls [1979] used species richness as a measure of diatom biointegrity.

The diversity index is based on the Shannon diversity index which includes measures of species evenness and taxa richness and is sensitive to variation in water quality [Bahls, 1993].

Pollution tolerance groups, defined by Lange-Bertalot [1979], diatom autecological profiles described by Lowe [1974] and unpublished Montana diatom data described in Bahls [2006] were combined in the Pollution Index [Bahls, 1993]. This index rates diatom tolerance to nutrient enrichment, minerals, elevated temperatures, or metal toxicity. Diatom species are assigned a score from 1-3: a score of 1 corresponds to "most-tolerant", a score of 2 corresponds to "less-tolerant", and a score of 3 corresponds to "sensitive."

The Siltation Index examines the percentage of diatom taxa associated with fine sediments [Bahls, 1993; Teply and Bahls, 2005]), Many diatom species are motile. Motility is thought to be an adaptation to siltation whereby individual diatom cells can move to avoid inundation by deposited sediment. The Siltation Index [Bahls, 1993] is calculated as the total percent abundance of motile diatom taxa which include species belonging to the genera Navicula, Nitzschia, Surirella and other closely related taxa.

The disturbance index [Barbour et al., 1999] is based on the percent relative abundance of the diatom *Achnanthidium minutissimum*, which is highly specialized in the post-disturbance recolonization of stream substrates. Elevated numbers may be indicative of recent environmental stress caused by elevated or highly variable stream flows, water velocities, and water temperatures at a site. Care must be taken in the interpretation of this metric because this diatom may also be the dominant species in swiftly flowing mountain streams because of the naturally occurring disturbances there.

The relative abundance of the dominant diatom [Teply and Bahls, 2005] in an assemblage is a measure of the evenness; the greater the percentage of organisms in the dominant taxon, the more skewed is the assemblage. The underlying principle is that a healthy and stable assemblage will be more even with a relatively consistent division of its organisms into taxa.

The percentage of abnormal diatom valves examines the relative abundance of diatom valves with irregular outlines and abnormal ornamentation. McFarland et al. [1997] examined the percentage of abnormal diatom (*Fragilaria* species) valves in a Rocky Mountain river in Colorado. Abnormal valves ranged from 0.2-12.0 percent and the percentage was positively correlated to the amounts of metals (cadmium, copper, iron, and zinc) found in the river. These data suggested that morphologically abnormal diatoms may be an indicator of elevated dissolved metal concentrations in streams.

An overall biointegrity rating was assigned for each monitoring site based on the individual bioassessment metrics (Table 6-2; RESPEC [2018b]). This overall rating was determined using a series of steps. First, at each site, scores were assigned for each diatom association metric on an ordinal scale: "excellent" = 3, "good" = 2, "fair" = 1, and "poor" = 0. Second, the mean score of those seven metrics at each site was calculated. The mean score of the seven metrics was then used as the overall biointegrity rating on another ordinal scale: "excellent" = more than 2.7, "good" = 1.7-2.7, "fair" = 0.7-1.7, and "poor" = less than 0.7.

Table 6-2. Summary of diatom association metrics to evaluate biological integrity in mountain streams: references range of values, expected response to increasing impairment or stress.

Metric	Biological Integrity				Range	Expected Response	Reference
	Excellent	Good	Fair	Poor			
Species Richness	>29	20-29	19-10	<10	0-100+	decrease	Bahls, 1993
Diversity Index	>2.99	2.00-2.99	1.00-1.99	<1.00	0-5+	decrease	Bahls, 1993
Pollution Index	>2.50	2.01-2.50	1.50-2.00	<1.5	1-3	decrease	Bahls, 1993
Siltation Index	<20.0	20.0-39.9	40.0-59.9	>59.9	0-90+	increase	Bahls, 1993
Disturbance Index	<25.0	25.0-49.9	50.0-74.9	>74.9	0-100	increase	Barbour et al., 1999
Dominant Species (%)	<25.0	25.0-49.9	50.0-74.9	>74.9	~5-100	increase	Barbour et al., 1999
Abnormal Valves (%)	0	>0.0, <3.0	3.0-9.9	>9.9	0-30+	increase	McFarland et al., 1997

6.2.3.2.3 Freshwater Diatoms as Ecological Indicators

Van Dam et al. [1994] identified diatom taxa considered to be indicators of specific conditions. Conditions identified by the Van Dam et al. [1994] indicator taxa included organic nitrogen tolerance and hypoxia tolerance.

Most diatoms are nitrogen-autotrophs and are unable to directly utilize organic nitrogen. For some nitrogen-autotrophs, organic nitrogen may be toxic. Some diatoms directly assimilate organic nitrogen in addition to, or as an alternative to, inorganic nitrogen (i.e., facultative nitrogen heterotrophs). Van Dam et al. [1994] classified diatom species by trophic state, either as nitrogen-autotrophs or nitrogen heterotrophs. Relative abundances of diatoms in each group were quantified for each site. Nitrogen-heterotroph relative abundance is expected to generally increase in relation to organic nitrogen concentrations and the opposite relationship is expected for nitrogen-autotrophs intolerant of organic nitrogen.

Some diatoms are intolerant of saprobic conditions (i.e., waters with excessive organic materials in various states of decomposition resulting in high biochemical oxygen demand and 75 percent dissolved oxygen saturation) [Van Dam et al., 1994]. Diatoms with such sensitivities are referred to as oligosaprobous or ß-mesosaprobous and would likely be found in low relative abundance in water with excessive organic pollution. Similarly, water with low dissolved oxygen saturation would likely have few species sensitive to hypoxia. The relative abundance oligosaprobous or ß-mesosaprobous diatoms and oxygen-sensitive diatoms were summarized by site.

6.2.3.3 Ecological Interpretations

Narrative interpretations were used to investigate and describe metric and taxonomic signals for water quality, sediment deposition and habitat indicators. These interpretations of the taxonomic and functional composition of the diatom assemblage were based on demonstrated associations between assemblage components and habitat and water quality variables gleaned from the published literature and professional judgment, and those of other expert sources (e.g., Teply and Bahls [2005]; [2006]; [2007a]). Often canonical procedures have been used for stressor identification; however, the substantial data required for such procedures (e.g., surveys of habitat, historical and current data related to water quality, land use, point and non-point source influences, soils, hydrology, geology) were not readily available for this study. Instead, attributes of the periphyton taxa that have been well-substantiated in diverse literature, including both published and unpublished research, and that have been generally accepted by regional aquatic ecologists, were combined into descriptions of probable water quality and instream and reach-scale habitat conditions. The approach to this analysis used some assemblage attributes that were interpreted as evidence of water quality and other attributes that were interpreted as evidence of habitat integrity.

Periphyton assemblages have been used as indicators of water quality [Stevenson, 2014]. Algal assemblages are especially sensitive to nutrient enrichment (e.g., Black et al. [2011]; Waite [2014]; Piggott et al. [2015]) and nutrient tolerance values have been established for many taxa (e.g., Van Dam et al. [1994]; Fairchild et al. [1985]; Carrick et al. [1988]; Teply and Bahls [2006]; Bahls [2004]; [2005]; [2006]). Worldwide diatom taxa with specific tolerances to saprobity (e.g., Van Dam et al. [1994]), organic pollution (e.g., Lange-Bertalot [1979]), salinity (e.g., Van Dam et al. [1994]), conductivity and ionic composition (Potapova and Charles [2003]), and fine sediment and adaptations to sediment (e.g., Lowe [1974]; Lowe [2003]; Stoermer and Smol [1999]) and general habitat disturbance (e.g., Lange-Bertalot [1996]) have been identified.

In the site-specific narratives, we compiled the information from the indices and metrics described above with ecological and autecological characteristics which were established specifically for taxa of the northwestern United States and Montana (Bahls, 2004; 2005; 2006). The narratives also examined 2 metrics that have been studied in Montana streams. These include the relative abundance of metals-tolerant taxa [Teply and Bahls,2005and the percentage of motile and highly motile taxa (Teply and Bahls, 2005; taxa from J. Stevenson, *personal communication*; Hannaea, 2005). These metrics were examined to suggest the potential stressors (nutrients, metals, sediment) that may be influential at the specific sites.

In addition, we explored similarities and differences in diatom assemblage structure among sites. We did this by using a Principal Components Analysis (PCA) using the covariance matrix of diatom species-level data. We removed diatoms that were identified to genus only if species level data were available in the database. The genus *Hippodonta* was the only genus that was identified to only the generic level, thus that taxon remained in the ordination.

6.3 RESULTS

6.3.1 Taxa Richness and Diversity

6.3.1.1 Non-Diatoms

A total of 19 genera and 1 unique undetermined taxon of non-diatom algae, representing four divisions, were identified in the Silver Bow Creek watershed in 2018 (Figure 6-1). These included: 1 undetermined taxon of Rhodophyta (red algae), 9 genera of the Cyanophyta (blue-green algae), 9 genera of the Chlorophyta (green algae) and 1 genus of the Chrysophyta (the yellow-green alga *Vaucheria*).

Generic richness of non-diatom algae ranged from 1 to 8 among the Silver Bow watershed sites (Figure 6-1). Generally, richness appeared to be highest at the upstream most sites (Sites SS-01 through SS-08): the highest taxa richnesses of non-diatom algae were recorded at Sites SS-05A and SS-08. Taxa richnesses were low (between 3 to 5 taxa) at the middle sites (Sites SS-10A through SS-14). Downstream of Site SS-14 taxa richness varied considerably, from 7 taxa at Site SS-15A-2 to 1 taxon at Site SS-17D, which was the lowest non-diatom taxon richness recorded in 2018.

Green algae were present at all sites (Figure 6-1). Blue-green algae were present at all sites except Sites SS-07 and SS-17D. The chrysophytes were collected at 4 sites (Sites SS-07, SS-08, SS-11C and SS-15A-2). The red algae were also collected at 4 sites (Sites SS-05A, SS-06G, SS-08, and SS-15G). The general trend was for green algae to be the most taxonomically rich division at the upstream sites (Sites SS-01 though SS-08), whereas blue-green algal taxa richness tended to be highest in the intermediate sites (Sites SS-10A through SS-14). Below Site SS-14 the division with the greatest number of taxa varied considerably.

The relative abundance of each soft-bodied algal genus (and of all diatoms collectively) for each site is presented in Appendix H.

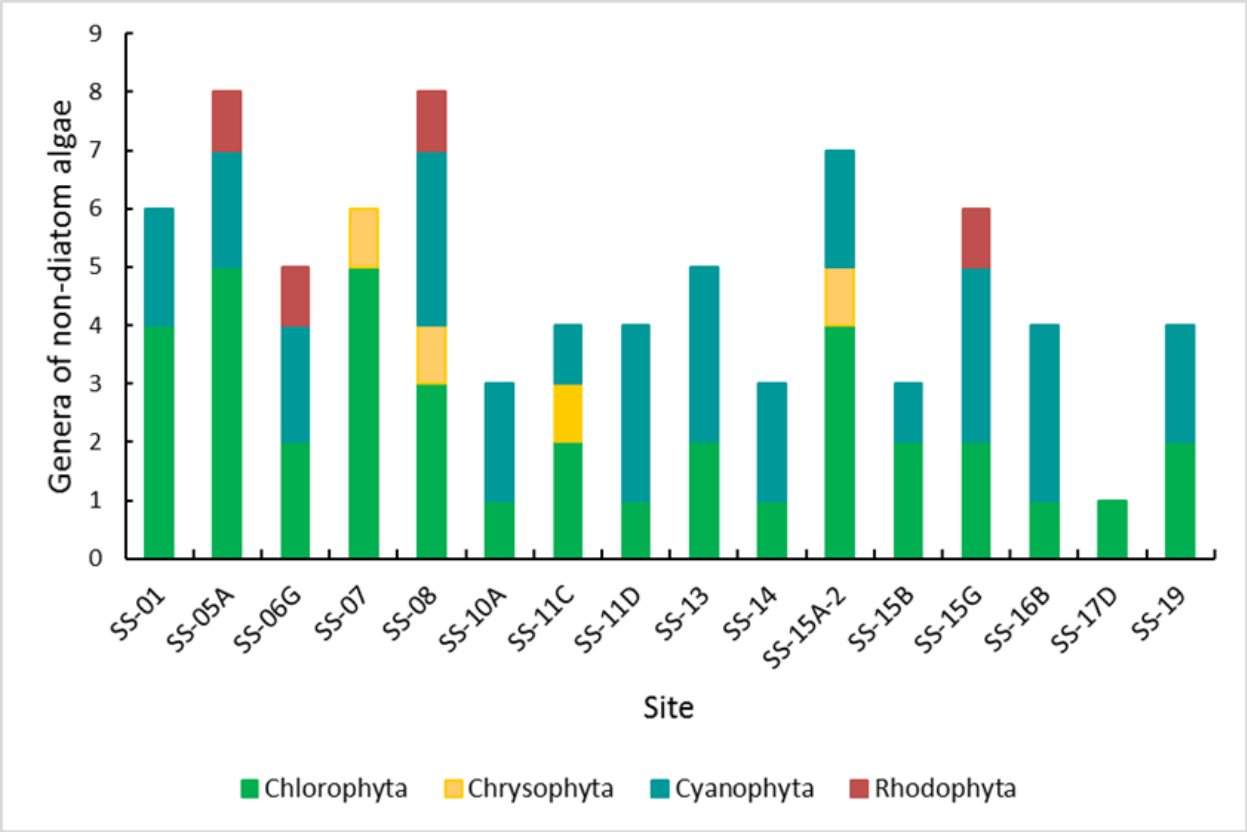

Figure 6-1. Taxonomic richness of non-diatom algae genera in the Silver Bow watershed, 2018.

6.3.1.2 Diatoms

A total of 136 diatom taxa, mostly species and including varieties and subspecies, in 49 genera were identified in the 2018 periphyton samples. Diatom genera that were commonly observed at a relative abundance of at least 3 percent across all samples included: *Nitzschia* (27.7 percent), *Staurosira* (4.0 percent), *Cocconeis* (5.7 percent), *Mayamaea* (18.9 percent), *Encyonema* (3.1 percent), *Planothidium* (7.7 percent), *Sellaphora* (14.0 percent), and *Navicula* (3.7 percent).

Diatom taxa richness varied between 34 and 63 (Figure 6-2). The general trend was for the upstream most sites (Sites SS-01, SS-05A, SS-06G, SS-07, SS-08) to have greater taxa richness (52 to 60) than the downstream sites (Sites SS-16B, SS-17D, SS-19) where richness varied between 34 and 37 taxa. Sites in between these two extremes (Sites SS-10A through site SS-15G) varied between a high of 55 taxa (Site SS-15B) and a low of 39 taxa (Site SS-13).

Shannon diversity varied between 3.26 and 5.02 (Figure 6-2). The upstream sites (Sites SS-01 through SS-08) had the highest diversities (all more than 4.51). Lowest diversities were found at Sites SS-13 (3.26), SS-16B (3.38), and SS-19 (3.27). The general trend in Shannon diversity was a fairly steady decline from Site SS-01 (5.02) through Site SS-13 (3.26). Diversity increased slightly from Site SS-13 (3.26) through Site SS-15G (4.09) and then declined at the three downstream-most sites: Site SS-16B (3.38), Site SS-17D (3.59), and Site SS-19 (3.27).

Trends in taxa richness and Shannon Diversity were generally similar, although they did diverge somewhat, probably because Shannon Diversity also considers taxa evenness as well as taxa richness.

Complete lists of species observed and counts for each species within each sample are provided in Appendix I.



Figure 6-2. Diatom species richness and Shannon Diversity values in the Silver Bow watershed, September 17-21, 2018.

6.3.2 Diatom Bioassessment Indices

6.3.2.1 Increaser Taxa

Impairment probabilities derived from increaser taxa bioindices are presented in Figure 6-3.

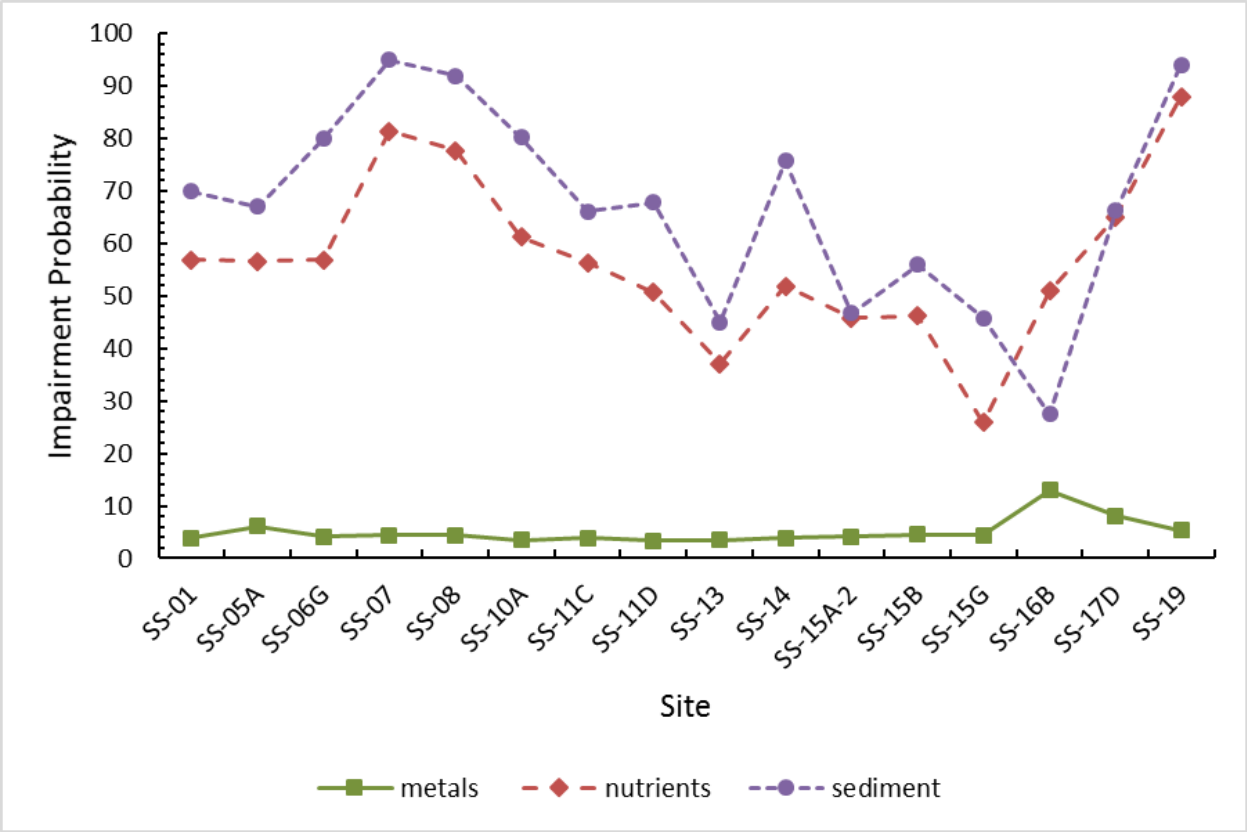

Figure 6-3. Impairment probabilities (expressed as a percentage) from specific environmental stressors at each site in the Silver Bow Creek watershed in 2018 based on relative abundances of specific diatom increaser taxa.

6.3.2.1.1 Sediment

The probability of impairment (all probabilities in this report are expressed as a percentage rather than proportions) from sediments in the Silver Bow Creek watershed ranged from 27.5 percent at Site SS-16B to a high of 95.0 percent at Site SS-07 based on the relative abundance of diatom species considered sediment increaser taxa (Figure 6-3). Unlike taxa richness and Shannon Diversity, sediment impairment probability generally tended to increase from Site SS-01 (70.0 percent) and Site SS-05A (67.1 percent) through Site SS-07 (95.0 percent, the highest value found in 2018 which was followed by a general decline through Site SS-13 (45.0 percent). The probability then jumped to 75.7 percent at Site SS-14 which was followed by another general decline to Site SS-16B (27.5 percent). Finally, there was a dramatic increase to Site SS-19 (94.1 percent), which was the second highest value found in 2018.

6.3.2.1.2 Metals

Based on the relative abundance of diatom metals increaser taxa, the probability of impairment from metals in the SSTOU ranged from 3.4 percent at Site SS-11D to 12.9 percent at Site SS-16B (Figure 6-3). The general trend was for all sites upstream of and including Site SS-

15G to have probabilities of impairment by metals between 3 percent and 5 percent, except for Site SS-05A where the probability was 6.2 percent. Probability of impairment by metals tended to be higher at the downstream sites (Sites SS-16B through SS-19) where the probabilities ranged between 5.4 percent and 12.9 percent.

6.3.2.1.3 Nutrients

Based on the relative abundance of diatom nutrient increaser taxa, the probability of impairment from nutrients ranged from 25.9 percent at Site SS-15G to 88.0 percent at Site SS-19 (Figure 6-3). The patterns for the probability of impairment by nutrients and the probability of impairment by sediments across sites were very similar.

6.3.2.2 Diatom Association Metrics for Montana Mountain Streams

Overall biological integrity, based on the mean value of the scores for all 7 metrics in Table 6-2 using the scoring criteria listed in the methods, was classified as "good" at all sites except Site SS-15G, which was classified as "excellent" (Table 6-3). Despite the "good" classification, every site had at least "minor".

impairment for at least two of Bahls [1993] metrics (Table 6-3). Ten sites were severely impaired based on the Siltation Index, but still were classified as having "good" biological integrity. In addition, 3 of the sites that were rated as severely impaired by the Siltation Index, were also rated as moderately impaired by the Pollution Index and they were still rated as "good".

Diatom species richness, Shannon Diversity, and the Disturbance Index indicated excellent water quality and no impairment at all sites (Table 6-3). Most sites were rated by the Pollution Index as having only minor impairment and good water quality. However, the Pollution Index rated Sites SS-10A, SS-11C, and SS-15A-2 as moderately impaired. Site SS-15G was the only site rated unimpaired by the Pollution Index. All sites were impaired based on the Siltation Index (Table 6-3). Sites SS-01 through SS-08 were rated as moderately impacted by fine sediment. The Siltation index rated all sites downstream of Site SS-08 as severely impacted except for Site SS-15G where the impact was rated as minor. The Dominant Taxon percentage metric indicated minor stress at 9 sites suggesting that diatom assemblage structure was impaired at these sites. Sites SS-07 and SS-16B were the only reaches where abnormal diatom valves were collected and rated a "good" for that reason.

As mentioned in the previous paragraph, all sites appeared to be impacted by multiple stressors based on the criteria in Table 6-2 because sediment and organic pollution impacted all sites to some degree. Sites SS-10A, SS-11C, and SS-15A-2 appeared to be the most stressed as they were moderately impacted by organic pollution and severely impacted by sediments. In addition, Sites SS-10A and SS-11C were also rated as having some minor impact to diatom assemblage structure by the Dominant Taxon metric.

Table 6-3. Diatom association metrics and biological integrity and impairment ratings for individual metrics and an overall score and rating for each site in the Silver Bow Creek watershed. September 17-21, 2018.[56]

Site	Site description	Diatom Species Richness	Shannon Diversity Index	Pollution Index	Siltation Index (%)	Disturbance Index (%)	Dominant Taxon (%)	Abnormal Cells (%)	Biological Integrity Score	Biological Integrity Rating
SS-01	Blacktail Creek at Father Sheehan Park	60	5	2.4	44.8	1.9	8.86	0	2.6	good
SS-05A	Silver Bow Creek above Butte Reduction Works	58	5	2.4	50.5	1.1	9.35	0	2.6	good
SS-06G	Silver Bow Creek above Butte WWTP	63	4.9	2.4	46.3	1.6	11.9	0	2.6	good
SS-07	Silver Bow Creek below Butte WWTP	52	4.5	2.4	51	1.7	18.2	0.1	2.4	good
SS-08	Silver Bow Creek at Rocker	57	4.6	2.4	54	1.4	20.7	0	2.6	good
SS-10A	Silver Bow Creek above Sand Creek	42	3.8	2	76.2	1.3	25.8	0	2.1	good
SS-11C	Silver Bow Creek above Browns Gulch	45	3.5	1.9	83.8	0.5	36.6	0	2.1	good
SS-11D	Silver Bow Creek below Browns Gulch	53	4	2	76	0.6	29.5	0	2.3	good
SS-13	Silver Bow Creek in Reach L	39	3.3	2.1	85.4	0	39.8	0	2.3	good
SS-14	Silver Bow Creek at Miles Crossing	48	3.8	2.2	76.5	1.4	30	0	2.3	good
SS-15A-2	Silver Bow Creek above German Gulch (Alternate Site)	47	3.9	2	77.1	0.4	24.4	0	2.3	good
SS-15G	German Gulch near confluence	43	4.1	2.7	32.1	6.9	29.5	0	2.7	excellent
SS-15B	Silver Bow Creek below German Gulch	55	4.3	2.1	70.3	1.1	24.4	0	2.4	good
SS-16B	Silver Bow Creek in Reach P near Fairmont	34	3.4	2.3	87	0.1	28.1	0.1	2.1	good
SS-17D	Silver Bow Creek below Stewart St at Opportunity	37	3.6	2.3	81.8	0.4	27.5	0	2.1	good
SS-19	Silver Bow Creek at Frontage Road	37	3.3	2.2	81.2	0.1	28.1	0	2.1	good

Minor impairment.

Moderate impairment.

Severe Impairment.

[56] Metric classifications were based on criteria in Table 6-2. Overall biological integrity scores were based on the techniques as described in the methods where scores were assigned for each diatom association metric on an ordinal scale: "excellent" = 3, "good" = 2, "fair" = 1, and "poor" = 0. The mean score of the 7 metrics at each site was used as to assign the overall biointegrity rating: "excellent" more than 2.7, "good" = 1.7-2.7, "fair" = 0.7-1.7, and "poor" less than 0.7.

6.3.2.3 Freshwater Diatoms as Ecological Indicators

6.3.2.3.1 Trophic State

The relative abundance of nitrogen-autotrophic diatoms intolerant of organic nitrogen ranged from 14.1 percent at Site SS-13 to 67.0 percent at Site SS-15G (Figure 6-4). Mean relative abundance of nitrogen-autotrophic diatoms was 32.0 percent (standard deviation [SD] = 14.8 percent). All sites had relative abundance of nitrogen-autotrophic diatoms within one SD of the mean except Site SS-01 (48.7 percent) and Site SS-15G (67.0 percent), which were above the threshold of 1 SD above the mean, and Site SS-11C (16.7 percent) and Site SS-13 (14.1 percent), which were below the threshold of 1 SD below the mean. The general trend was for the relative abundance of nitrogen-autotrophic diatoms intolerant of organic nitrogen to decline from Site SS-01 through Site SS-11C, fluctuate but remain relatively low from Site SS-11D through Site SS-15A-2, increase to its highest value at Site SS-16G, and then decline to low values at the downstream most sites.

The relative abundance of nitrogen-heterotrophic diatoms ranged from 3.0 percent at Site SS-15G to 28.9 percent at Site SS-16B) (Figure 6-4). Mean relative abundance of nitrogen-heterotrophic diatoms was 12.6 percent (SD = 6.6 percent). All sites had relative abundance of nitrogen-heterotrophic diatoms within one SD of the mean except Site SS-15A-2 (25.8 percent) and Site SS-16B (28.9 percent), which were above the threshold of 1 SD above the mean, and Site SS-16G (3.0 percent) and Site SS-19 (4.0 percent), which were below the threshold of 1 SD below the mean. Interestingly, the general pattern was for the relative abundance of nitrogen-heterotrophic diatoms to remain low from Site SS-01 through Site SS-14, peak at Site SS-15A-2 (25.8 percent), decline to the lowest value reported in 2018 at Site SS-15G (3.0 percent), increase again to a peak at Site SS-16B (28.9 percent) followed by another rapid decline to the second lowest value reported in 2018 at Site SS-19 (4.0 percent).

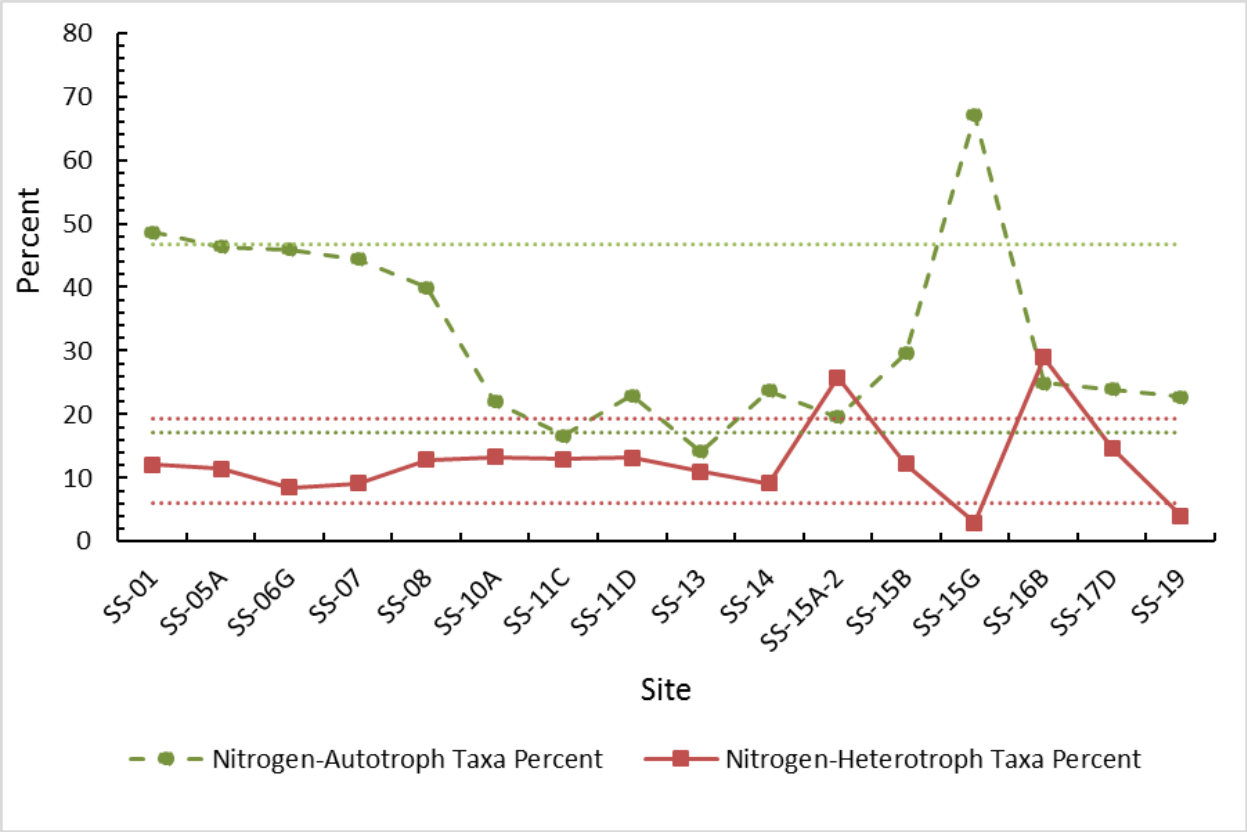

Figure 6-4. Relative abundance of diatoms classified in relation to trophic state (after Van Dam et al. [1994]) in the Silver Bow Creek watershed, 2018. Dotted lines represent (mean +1 standard deviation [SD]) and (mean –1 SD) for respective metrics and are provided as an aid to interpretation.

6.3.2.3.2 Saprobity and Hypoxia

The relative abundance of oligosaprobous or ß-mesosaprobous diatoms [Van Dam et al., 1994] varied between 6.4 percent at Site SS-13 and 62.0 percent at Site SS-15G (Figure 6-5). Mean relative abundance of these taxa was 21.8 percent (SD = 15.1 percent). Site SS-15G was above 1 SD above the mean, whereas Sites SS-13 was 1 SD below the mean. The relative abundance of oligosaprobous or ß-mesosaprobous diatoms remained relatively consistent and high from Sites SS-01 through SS-08, declined and remained relatively consistent from Sites SS-10A through SS-15B, hit its highest value at SS-15G, and then declined again the downstream most sites.

The relative abundance of diatoms with high oxygen demand (continuously high and fairly high oxygen-demand categories based on the classification of Van Dam et al. [1994]) varied between 4.4 percent (Site SS-13) and 30.1 percent (Site SS-01) (Figure 6-5). Mean relative abundance of these taxa was 15.1 percent (SD = 8.0 percent). The relative abundance of these taxa was higher than the mean +1 SD at Sites SS-01 (30.2 percent), SS-05A (24.8 percent) and SS-15G (28.0 percent). Sites SS-11D (7.0 percent) and SS-13 (4.4 percent) both exhibited percentages of low and very low oxygen-demand diatoms below the mean –1 SD. The pattern of

the relative abundance of diatoms with high oxygen demand was very similar to the patterns of the relative abundance of oligosaprobous or ß-mesosaprobous diatoms.

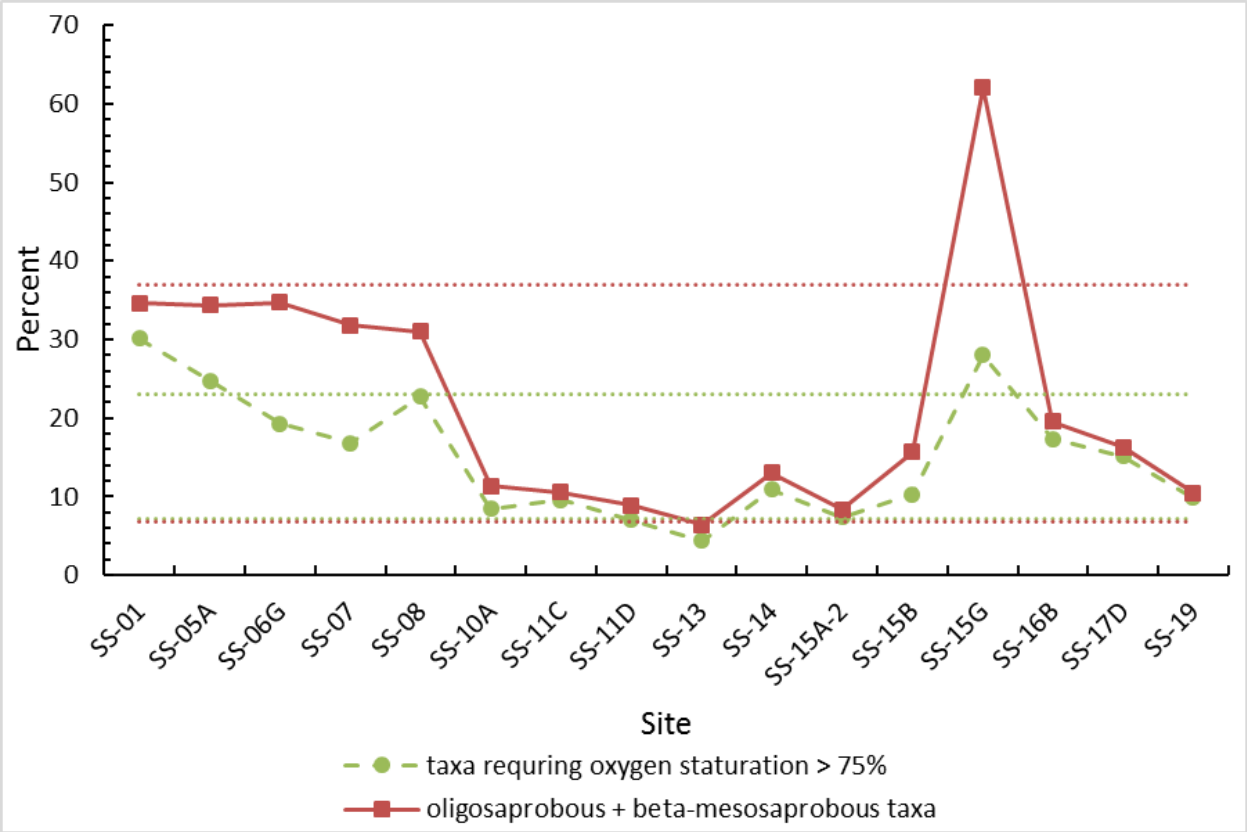

Figure 6-5. The relative abundance oligosaprobous or ß-mesosaprobous diatoms and oxygen-sensitive diatoms (after Van Dam et al. [1994]) in the Silver Bow Creek watershed, 2018. Dotted lines represent (mean +1 standard deviation [SD]) and (mean –1 SD) for respective metrics and are provided as an aid to interpretation.

6.3.3 Ecological Interpretations

6.3.3.1 Site Specific Narratives

6.3.3.1.1 Blacktail Creek at Father Sheehan Park

The taxa that were abundant or common and contributed most to algal biovolume in order of their estimated contributions were: (1) the green alga *Cladophora* (abundant), (2) the diatoms (very abundant), and (3) the blue-green alga *Heteroleibleinia* (very common). *Staurosira construens* v. *binodis* (8.9 percent) was the most abundant diatom followed by *Nitzschia palea* v. *debilis* (8.0 percent) and *Planothidium frequentissimum* (7.4 percent). Both diatom taxa richness (60) and Shannon Diversity (5.02) were high, indicating an even, taxa-rich assemblage (the dominant taxon made up only 8.9 percent of the assemblage) both suggesting good water quality. However, the Pollution Tolerance Index (2.37) indicated minor impairment. The high relative abundance of nitrogen-autotrophs (48.7 percent), the low relative abundance of nitrogen-

heterotrophs (12.1 percent), high relative abundance of diatoms with high oxygen demand (30.1 percent), and the high relative abundance of diatoms intolerant to saprobic conditions (34.6 percent) also suggested good water quality and little impact from nutrient enrichment. The probability of impairment by nutrients, as measured by the relative abundance of nutrient increaser taxa was 56.8 percent. Although the probability of impairment by metals was low (3.9 percent), metals-tolerant taxa made up 20.6 percent of the assemblage suggesting that metals contamination cannot be ruled out here. Fine sediment appeared to have impacted the diatom assemblage. The probability of impairment by fine sediment was 70.0 percent. This assessment was reinforced by the percentages of siltation indicator taxa (44.8 percent, Siltation Index) and of motile and highly motile taxa (25.8 percent), which were both large components of the diatom assemblage.

6.3.3.1.2 Silver Bow Creek above Butte Reduction Works

Ecological conditions at this site were very similar to those of Blacktail Creek at Father Sheehan Park (Site SS-01). The taxa that were abundant or common and contributed most to algal biovolume in order of their estimated contributions were: (1) the green alga *Cladophora* (abundant), *(2)* the diatoms (very abundant), and (3) the blue-green alga *Heteroleibleinia* (very abundant). The three diatom taxa with the highest relative abundances were *Sellaphora atomoides* (9.4 percent), *Nitzschia dissipata* (8.7 percent), and *Nitzschia soratensis* (7.1 percent). Good water quality was suggested by the high diatom taxa richness (58). This contention was supported by the high Shannon Diversity (4.98) and low relative abundance of the dominant diatom (9.4 percent). However, like Site SS-01, the Pollution Tolerance Index (2.37) indicated some minor impairment. The nutrient increaser taxa indicated that the probability of impairment was (56.8 percent). However, little effects from nutrient enrichment were suggested by the high relative abundances of nitrogen-autotrophs (46.4 percent), of diatoms with high oxygen demand (24.8 percent) and diatoms intolerant of saprobic conditions (34.4 percent), and the low relative abundance of nitrogen-heterotrophs (11.5 percent). Although the probability of impairment by metals was low (6.2 percent), metals contamination cannot be ruled out here because metals-tolerant taxa made up 20.5 percent of the assemblage. The probability of impairment by fine sediment was 67.1 percent and motile taxa (26.1 percent) and siltation indicator taxa (50.5 percent) were large components of the diatom assemblage. Mild impairment of the diatom assemblage by fine sediment appeared to have occurred here.

6.3.3.1.3 Silver Bow Creek above Butte WWTP

Again, ecological conditions at this site were very similar to the sites upstream of it: Blacktail Creek at Father Sheehan Park (Site SS-01) and Silver Bow Creek above Butte Reduction Works (Site SS-05A). Like upstream sites, the taxa that were abundant or common and contributed most to algal biovolume in order of their estimated contributions were: (1) the green alga *Cladophora* (abundant), (2) the diatoms (very abundant), and (3) the blue-green alga *Heteroleibleinia* (very abundant). The most common diatom taxa in order of relative abundance in the sample were *Cocconeis placentula* sensu lato (11.9 percent), *Nitzschia soratensis* (8.9 percent), and *Sellaphora atomoides* (8.0 percent). Many characteristics suggested good water quality at this site: diatom taxa richness was 63 (the highest of any site sampled in 2018), the Shannon Diversity Index was

high (4.90), and the percentage of the dominant taxon was low (11.9 percent). However, like upstream sites, the Pollution Tolerance Index (2.39) indicated some minor impairment. Nitrogen-autotrophs (45.9 percent) and oligosaprobous or ß-mesosaprobous diatoms (34.8 percent) were large components of the assemblage. Diatoms with oxygen demand greater than 75 percent (19.3 percent) were a slightly smaller part of the assemblage than at upstream sites. Nitrogen-heterotrophs (8.5 percent) were not a large part of the assemblage. Good water quality and little impact from nutrients were indicated by these characteristics. Like Sites SS-01 and SS-05A, the calculated probability of impairment due to nutrients was 56.9 percent. Metals contamination cannot be ruled out here: although the probability of impairment by metals was low (4.1 percent), metals-tolerant taxa made up 18.4 percent of the assemblage. Impairment by the deposition of fine sediments also appeared to occur here. The probability of impairment by fine sediment was 80.0 percent and siltation taxa (46.3 percent) and motile taxa (21.5 percent) percentages were also relatively high.

6.3.3.1.4 Silver Bow Creek below Butte WWTP

Ecological conditions at this site differed slightly from the sites upstream (Sites SS-01, SS-05A and SS-06G). The taxon that contributed most to algal biovolume was still the green alga *Cladophora* (very common); however, the taxa whose rank contributions to biovolume followed *Cladophora* differed: (2) the chrysophyte genus *Vaucheria* (abundant), (3) the diatoms (abundant), and (4) the green alga *Microspora* (very common). Unlike upstream sites, at Silver Bow Creek below Butte WWTP (Site SS-07) blue-green algae were absent from the benthic assemblage. The three diatom taxa with the highest relative abundances were *Sellaphora atomoides* (18.2 percent), *Cocconeis placentula* sensu lato (12.9 percent), and *Mayamaea permitis* (7.6 percent). Although this site was ranked as excellent based on diatom species richness (52), Shannon Diversity (4.51) and dominant taxon (18.2 percent) suggested slightly diminished conditions: the values for the first 2 metrics were slightly lower and for the third slightly higher than the 3 upstream sites. Minor impairment was suggested by the Pollution Tolerance Index (2.35). Nutrient enrichment seemed to have occurred at this site as the probability of impairment as a result of nutrients was 81.4 percent (the second highest value found in 2018). The relative abundance of nitrogen-autotrophs (44.4 percent), taxa with high oxygen demand (16.8 percent, which was less than Site SS-05A), and taxa that were intolerant of saprobity (31.8 percent) remained high, whereas the relative abundance of nitrogen-heterotrophs (9.2 percent) remained low. Metals-tolerant taxa made up 18.2 percent of the assemblage and this site was only one of two sites where abnormal diatom valves (0.1 percent) were collected, which may indicate some chance of metal contamination at this site. However, the Metals Increasers Taxa Index suggested a low probability of impairment by metals (4.4 percent). Impairment by the deposition of fine sediments also appeared to occur here. Impairment was suggested by the Sediment Increasers Taxa Index (probability of impairment, 95.0 percent, the highest value in 2018), which was supported by the relative abundance of siltation (51.0 percent) and motile taxa (18.7 percent).

6.3.3.1.5 Silver Bow Creek at Rocker

The algal assemblage at Silver Bow Creek at Rocker (Site SS-08) exhibited some similarities to all the upstream sites. Like Sites SS-01, SS-05A and SS-06G, the taxa that were abundant or

common and contributed most to algal biovolume in order of their estimated contributions were: (1) the green alga Cladophora (abundant), (2) the diatoms (very abundant), and (3) the blue-green alga *Heteroleibleinia* (very abundant). However, like at Site SS-07, the chrysophyte genus *Vaucheria* was common and contributed the fourth most to algal biovolume. The 3 diatom taxa with the highest relative abundances were *Sellaphora atomoides* (20.7 percent), *Nitzschia soratensis* (7.9 percent), and *Cocconeis placentula* sensu lato (7.5 percent). Similar to Sites SS-01, SS-05A, and SS-06G, diatom taxa richness (57) was high, whereas Shannon Diversity (4.56) and the relative abundance of the dominant diatom taxon (20.7 percent) were similar to Site SS-07. Slight impairment was suggested by the Pollution Tolerance Index (2.37). Nitrogen-autotrophs (39.9 percent) were a slightly smaller component of the assemblage than at upstream sites. On the other hand, the relative abundances of nitrogen-heterotrophs (12.8 percent) remained low, whereas the percentages of diatoms that were intolerant of low oxygen concentration (22.7 percent), saprobic conditions (31.0 percent) and the probability of impairment by nutrients (77.7 percent) remained high. Like Site SS-07, overall it appeared that mild nutrient contamination occurred here. The probability of impairment by metals was low (4.5 percent) and the relative abundance of metals-tolerant taxa (12.6 percent) was lower than upstream sites, making contamination by metals less likely here. Impairment by the deposition of fine sediments also appeared to occur here. The probability of impairment by fine sediment was 92.0 percent, siltation taxa accounted for 54.0 percent of the assemblage, and motile taxa (18.5 percent) were common.

6.3.3.1.6 Silver Bow Creek above Sand Creek

The algal assemblage made a dramatic change from upstream sites at Site SS-10A. Diatoms were the only significant contributor to algal biovolume. The three diatom taxa with the highest relative abundances were *Nitzschia soratensis* (25.8 percent), *Mayamaea permitis* (15.1 percent), *and Sellaphora atomoides* (13.8 percent). Both diatom taxa richness (42) and Shannon Diversity (3.79) were lower than upstream sites, although both metrics indicated excellent water quality. The decline in Shannon Diversity from Sites SS-07 and SS-08 to SS-10A appeared to be related to the loss of taxa rather than a decrease in assemblage evenness because the contribution of the dominant taxon (25.8 percent) changed little between these sites. The Pollution Tolerance Index (1.96) declined from upstream sites and indicated moderate impairment. The relative abundance of nitrogen-autotrophs (22.0 percent) declined dramatically from upstream sites; however, the relative abundance of nitrogen-heterotrophs (13.3 percent) remained similar to upstream sites. Algae that cannot tolerate low oxygen concentrations (8.5 percent) and saprobic conditions (11.3 percent) also declined from upstream sites. In addition, the probability of impairment by nutrients (61.3 percent) declined slightly from values at Sites SS-07 and SS-08 and was similar to the values found at Site SS-01 through Site SS-06G. These characteristics suggested that water quality was slightly impaired by nutrient enrichment at Site SS-10A. The probability of impairment by metals was low (3.4 percent) and the relative abundance of metals-tolerant taxa (16.4 percent) increased slightly from Site SS-08; however, metals contamination appeared unlikely here. Severe impairment by the deposition of fine sediments also appeared to occur here. The siltation taxa (76.2 percent) suggested severe impairment and the calculated probability of impairment by fine sediment was 80.2 percent. The relative abundance of motile taxa was 16.9 percent.

6.3.3.1.7 Silver Bow Creek above Browns Gulch

The assemblage at Silver Bow Creek above Browns Gulch (Site SS-11C) had some characteristics that were similar to Site SS-10A and some that were similar to sites upstream of Site SS-10A. The taxa that were abundant or common and contributed most to algal biovolume in order of their estimated contributions were: (1) the green alga *Cladophora* (abundant), (2) the chrysophyte genus *Vaucheria* (abundant), (3) the diatoms (abundant) and (4) the blue-green alga *Heteroleibleinia* (very abundant), suggesting that the community "rebounded" to be somewhat similar to sites upstream of Site SS-10A. *Mayamaea permitis* (36.6 percent), *Sellaphora atomoides* (12.6 percent), and *Nitzschia soratensis* (9.3 percent) were the three diatom taxa with the highest relative abundances. Like Site SS-10A, diatom taxa richness (45) and Shannon Diversity (3.51) were somewhat depressed and lower than Sites SS-01 through SS-08, although both rated excellent. In addition, the relative abundance of the dominant diatom taxon (36.6 percent) was high and suggested minor impairment. The Pollution Tolerance Index (1.94) was similar to Site SS-10A and indicated moderate impairment. The relative abundances of nitrogen-autotrophs (16.7 percent), high oxygen-demand taxa (9.6 percent), and oligosaprobous or ß-mesosaprobous diatoms (10.6 percent) were low and similar to Site SS-10A. The relative abundance of nitrogen-heterotrophs (13.0 percent) remained similar to upstream sites. The probability of impairment by nutrients (56.3 percent) declined slightly from Site SS-10A. These metrics suggested that water quality was mildly impaired by nutrient enrichment at this site. The probability of impairment by metals was low (3.8 percent) and the relative abundance of metals-tolerant taxa was 17.1 percent, consequently there was little evidence to support contamination by metals. Impairment by the deposition of fine sediments also appeared to occur here. The siltation taxa (83.8 percent) suggested severe impairment and the probability of impairment by fine sediment was 66.1 percent. The relative abundance of motile taxa was 16.1 percent.

6.3.3.1.8 Silver Bow Creek below Browns Gulch

The taxa that were abundant or common and made up most of the algal biovolume in order of their estimated contributions were: (1) the green alga *Cladophora* (abundant), (2) the diatoms (abundant), and the blue-green algae (3) *Heteroleibleinia* (very abundant) and (4) *Xenococcus* (very abundant). Like Site SS-11C the three diatom taxa with the greatest relative abundances were *Mayamaea permitis* (29.5 percent), *Nitzschia soratensis* (10.5 percent), and *Sellaphora atomoides* (9.5 percent). Both diatom taxa richness (53) and Shannon Diversity (3.95) increased slightly over the values at sites Sites SS-10A and SS-11C. These characteristics suggested excellent conditions, although the relative abundance of the dominant diatom taxon (29.5 percent) and the Pollution Tolerance Index (2.03) both indicated minor impairment. The nutrient increaser metric suggested that the probability of impairment by nutrients was 50.7 percent. Other nutrient-related characteristics were similar to Sites SS-10A and SS-11C (nitrogen-autotrophs (23.0 percent), high oxygen-demand taxa (7.0 percent), nitrogen-heterotrophs (13.2 percent), oligosaprobous or ß-mesosaprobous diatoms (8.9 percent)) suggesting that some nutrient enrichment occurred at this site. The probability of impairment by metals was low (3.4 percent); however, the relative abundance of metals-tolerant taxa increased to 26.5 percent, thus, impairment by metals cannot be ruled out here. Impairment by the deposition of fine sediments also appeared to occur here. The probability of impairment by fine sediment was 67.8 percent and

the siltation taxa abundance (76.0 percent) suggested severe impairment. The relative abundance of motile taxa was 16.9 percent.

6.3.3.1.9 Silver Bow Creek in Reach L

Common non-diatom algal taxa at this site, in order of their contribution to algal biovolume, were the green alga *Cladophora* (abundant), the diatoms (very abundant), the blue-green algae *Heteroleibleinia* (very abundant), and *Xenococcus* (very abundant). *Mayamaea permitis* (39.8 percent), *Nitzschia soratensis* (12.1 percent), and *Nitzschia palea* v. *debilis* (9.4 percent) were the three dominant diatom taxa. Taxa richness (39) and Shannon Diversity (3.26) were lower than any site upstream of Site SS-13 although their levels did not indicate impairment. However, the Pollution Tolerance Index (2.08) and the relative abundance of the dominant diatom taxon (39.8 percent) both indicated minor impairment. Although the relative abundance of nitrogen-heterotrophic taxa was similar to upstream sites (11.0 percent), the relative abundance of nitrogen-autotrophs (14.1 percent), high oxygen-demand taxa (4.4 percent), and oligosaprobous or ß-mesosaprobous diatoms (6.4 percent) were the lowest of any site sampled in 2018. The proportion of nutrient increasers in the assemblage indicated that the probability of impairment by nutrients was 37.1 percent. Given these characteristics, slight impairment by nutrients was suggested. Metals contamination cannot be ruled out here: although the probability of impairment by metals was only 3.5 percent, metals-tolerant taxa made up 24.8 percent of the assemblage. Moderate impairment of the flora by fine sediment may be indicated here because the assemblage was strongly dominated by siltation taxa (85.4 percent) and the probability of impairment by fine sediment was 45.0 percent. Motile taxa made up 13.2 percent of the assemblage

6.3.3.1.10 Silver Bow Creek at Miles Crossing

Like other sites on Silver Bow Creek, the taxa that were abundant or common and made up most of the algal biovolume in order of their estimated contributions were: (1) the green alga *Cladophora* (very common), (2) the diatoms (abundant) and (3) the blue-green alga *Heteroleibleinia* (very abundant). The three most abundant diatom taxa were *Mayamaea permitis* (30.0 percent), *Nitzschia soratensis* (14.4 percent), and *Sellaphora atomoides* (9.7 percent). Taxa richness (48) and Shannon Diversity (3.79) rebounded somewhat compared to Site SS-13 and the sites were rated as in excellent condition by these metrics. However, like Site SS-13, the Pollution Tolerance Index (2.15) and the relative abundance of the dominant diatom taxon (30.0 percent) both indicated minor impairment. The relative abundance of nitrogen-autotrophs (23.7 percent), high oxygen-demand taxa (10.9 percent), and oligosaprobous or ß-mesosaprobous diatoms (13.0 percent) all increased over their low values at Site SS-13. the proportion of nutrient increasers in the assemblage indicated that the probability of impairment by nutrients declined to 51.8 percent. The relative abundance of nitrogen-heterotrophic taxa (9.0 percent) was similar to upstream sites. Given these characteristics, slight impairment by nutrients was suggested. Metals contamination cannot be ruled out here because metals-tolerant taxa made up 19.4 percent of the assemblage although the probability of impairment by metals was only 3.9 percent. Fine sediment may have impacted the diatom assemblages as the Siltation Index (76.5 percent) indicated moderate

impairment by fine sediment, motile diatom taxa made up 16.2 percent of the assemblage: however, the probability of impairment by fine sediment was 75.7 percent.

6.3.3.1.11 Silver Bow Creek above German Gulch (Alternate Site)

The overall algal assemblage changed slightly at Site SS-15A-2: the taxa that were abundant or common and contributed most to algal biovolume in order of their estimated contributions were: (1) the chrysophyte *Vaucheria* (abundant), the green algae (2) *Cladophora* (abundant) and (3) *Ulva* (abundant), (4) the diatoms (very abundant) and (5) the blue-green alga *Heteroleibleinia* (very abundant). *Mayamaea permitis* (24.4 percent), *Nitzschia paleacea* (16.2 percent), and *Sellaphora atomoides* (9.8 percent) were the three diatom taxa that contributed most to the assemblage. Taxa richness (47) and Shannon Diversity (3.88) were similar to Site SS-14; however, the Pollution Tolerance Index (1.97) was below the threshold of 2.01 and thus moderate impairment was indicated. The relative abundance of the dominant diatom taxon (24.4 percent) indicated no impairment. The relative abundance of nitrogen-autotrophs (19.7 percent), high oxygen-demand taxa (7.3 percent), and oligosaprobous or ß-mesosaprobous diatoms (8.3 percent) all decreased and nitrogen-heterotrophic taxa (25.8 percent) increased over their values at Site SS-14. In addition, the proportion of nutrient increasers in the assemblage indicated that the probability of impairment by nutrients declined to 45.8 percent. Mild impairment by nutrients was suggested. Metals contamination seemed to have occurred here as metals-tolerant taxa made up 39.6 percent of the assemblage although the probability of impairment by metals was only 4.1 percent. Fine sediment may have impacted the diatom assemblages as the Siltation Index (77.1 percent) indicated severe impairment by fine sediment and motile diatom taxa made up 26.5 percent of the assemblage. The probability of impairment by fine sediment was 46.8 percent.

6.3.3.1.12 German Gulch near confluence

The taxa that were abundant or common and made up most of the algal biovolume in order of their estimated contributions were: (1) the blue-green alga *Nostoc* (very abundant), (2) the green algae (2) *Ulva* (abundant) and (3) *Cladophora* (abundant), (4) the diatoms (very abundant) and (5) the blue-green alga *Heteroleibleinia* (very abundant). *Cocconeis placentula* sensu lato (29.5 percent), *Navicula reichardtiana* (8.4 percent), and *Nitzschia dissipata* (7.5 percent) were the most common diatom taxa. Diatom taxa richness was 43 and Shannon Diversity was 4.09. The Pollution Index (2.66) was the highest of any site sampled in 2018 and indicated excellent conditions, but the relative abundance of the dominant diatom taxon (29.5 percent) suggested mild impairment. Of all the sites evaluated in 2018, this site exhibited the highest relative abundance of nitrogen-autotrophs (67.0 percent), whereas the relative abundance of the nitrogen-heterotrophs (3.0 percent) had the lowest value. In addition, high oxygen-demand taxa (28.0 percent, the second highest value in 2018) and oligosaprobous or ß-mesosaprobous diatoms (62.0 percent, the highest value in 2018) were high. The calculated probability of impairment by nutrients was 25.9 percent (the lowest value in 2018) thus, there was little evidence to conclude that nutrients negatively influenced the water quality here. Metals contamination appeared unlikely at Site SS-15G: metals-tolerant taxa made up only 9.9 percent of the assemblage and the probability of impairment by metals was only 4.4 percent. The Siltation Index (32.1 percent) indicated minor impairment by fine sediment; however, motile diatom taxa made up 33.8 percent

of the assemblage and the probability of impairment by fine sediment was 48.5 percent. Thus, fine sediment appeared to slightly influence the diatoms at this site.

6.3.3.1.13 Silver Bow Creek below German Gulch

The green algae (1) *Oedogonium* (abundant) and (2) *Cladophora* (abundant), (3) the diatoms (abundant) and (4) the blue-green alga *Heteroleibleinia* (very abundant) made the greatest contributions to algal biovolume. The three most abundant diatom taxa were *Mayamaea permitis* (24.4 percent), *Nitzschia soratensis* (9.1 percent), and *Sellaphora atomoides* (7.8 percent). Diatom taxa richness (55) and Shannon Diversity (4.27) increased to values found in the upstream-most sites (Sites SS-01 to SS-08). The Pollution Tolerance Index (2.13) indicated minor impairment, whereas the relative abundance of the dominant diatom taxon (24.4 percent) indicated no impairment. The relative abundance of nitrogen-autotrophs (29.6 percent), high oxygen-demand taxa (10.3 percent), and oligosaprobous or ß-mesosaprobous diatoms (15.6 percent) all increased over their low values at Site SS-15A-2 and the relative abundance of nitrogen-heterotrophic taxa (12.3 percent) was similar to sites upstream of Site SS-15A-2. The probability of impairment by nutrients (46.2 percent) was similar to Site SS-15A-2. Given these characteristics, slight impairment by nutrients was suggested. Metals contamination seemed to have occurred here as metals-tolerant taxa made up 30.6 percent of the assemblage; however, the probability of impairment by metals was only 4.6 percent. Fine sediment may have impacted the diatom assemblages as the Siltation Index (70.3 percent) indicated severe impairment by fine sediment, motile diatom taxa made up 20.5 percent of the assemblage, and the probability of impairment by fine sediment was 55.9 percent.

6.3.3.1.14 Silver Bow Creek in Reach P near Fairmont

The most common algae, ranked in order of their dominance of the algal biovolume at Site SS-16, were (1) the cyanophyte *Leptolyngbya* (very abundant), (2) the chlorophyte *Ulva* (abundant) and (3) the diatoms (very abundant). The most common diatom taxa were *Mayamaea permitis* (28.1 percent), *Nitzschia paleacea* (24.3 percent), and *Nitzschia fonticola* (10.0 percent). Diatom taxa richness (34) was the lowest of any site in 2018 and Shannon Diversity (3.38) was also comparatively low; however, both rated the site as unimpaired. Both the Pollution Tolerance Index (2.27) and the relative abundance of the dominant diatom taxon (28.1 percent) indicated mild impairment. The relative abundance of nitrogen-heterotrophic taxa (28.9 percent) was the highest of any site sampled in 2018. The relative abundance of nitrogen-autotrophs (24.9 percent), high oxygen-demand taxa (17.3 percent), and oligosaprobous or ß-mesosaprobous diatoms (19.6 percent) as well as the calculated probability of impairment by nutrients (50.9 percent) were similar to Site SS-15B. Given these characteristics, slight impairment by nutrients was suggested. Impairment by metals seemed likely here: metals-tolerant taxa made up 34.7 percent of the diatom assemblage, the probability of impairment by metals was 12.9 percent (the highest value recorded in 2018). In addition, the diatom sample from this site included abnormal diatom valves (0.1 percent). Fine sediment may have impacted the diatom assemblages as the Siltation Index (87.0 percent) indicated severe impairment by fine sediment and motile diatom taxa made up 44.3 percent of the assemblage; however, the probability of impairment by fine sediment was only 27.5 percent (the lowest value of any site in 2018).

6.3.3.1.15 Silver Bow Creek below Stewart St at Opportunity

The algal assemblage made a change from most upstream sites at Site SS-17D: only diatoms (rank 1, abundant) and the chlorophyte *Stigeoclonium* (rank 2, very common) were collected. However, the diatom assemblage was dominated by taxa that were also abundant at other sites, including *Nitzschia soratensis* (27.5 percent), *Mayamaea permitis* (14.7 percent) and *Sellaphora atomoides* (13.8 percent). Both diatom taxa richness (37) and Shannon diversity (3.59) suggested good water quality; however, both were lower than many upstream sites. The relative abundance of the most common diatom taxon (27.5 percent) and the Pollution Tolerance Index (2.28) indicated mild impairment at this site. The relative abundance of nitrogen-autotrophs (24.0 percent), high oxygen-demand taxa (15.2 percent), and oligosaprobous or ß-mesosaprobous diatoms (16.3 percent) were very similar to Site SS-16B. However, the relative abundance of nitrogen-heterotrophs (14.7 percent) was lower than at Site SS-16B and probability of impairment by nutrients (65.1 percent) was higher than Site SS-16B. It appeared that this site was slightly impaired by nutrients. Impairment by metals cannot be ruled out here: metals-tolerant taxa made up 21.8 percent of the diatom assemblage and the probability of impairment by metals was 8.1 percent. The Siltation Index (81.8 percent) indicated severe impairment by fine sediment and motile diatom taxa made up 29.7 percent of the assemblage. In addition, the probability of impairment by fine sediment (66.3 percent) increased dramatically over Site SS-16B. Fine sediment appeared to influence the diatoms at this site.

6.3.3.1.16 Silver Bow Creek at Frontage Road

At Site SS-19, the most common algae, ranked in order of their dominance of the algal biovolume, were (1) the chlorophyte *Ulva* (very abundant), (2) the diatoms (very abundant), (3) the chlorophyte *Stigeoclonium* (very abundant), and the cyanophyte *Homoeothrix* (very common). The three most common diatoms were *Sellaphora atomoides* (28.1 percent), *Mayamaea permitis* (22.2 percent), and *Nitzschia soratensis* (18.6 percent). Like Site SS-17D, both diatom taxa richness (37) and Shannon diversity (3.27) suggested excellent water quality; however, both were lower than many upstream sites and the relative abundance of the most common diatom taxon (28.1 percent) and the Pollution Tolerance Index (2.20) indicated mild impairment. The relative abundance of nitrogen-autotrophs (22.7 percent) was similar to Site SS-17D; however, high oxygen-demand taxa (9.9 percent) and oligosaprobous or ß-mesosaprobous diatoms (10.5 percent) were lower than at Site SS-17D and the probability of impairment by nutrients (88.0 percent) was the highest of any site in 2018. It appeared that this site was moderately impaired by nutrients. Impairment by metals appeared to be unlikely here: metals-tolerant taxa made up 13.6 percent of the diatom assemblage and the probability of impairment by metals was 5.4 percent. Fine sediment appeared to influence the diatoms at this site. The Siltation Index (81.2 percent) indicated severe impairment and the calculated probability of impairment by fine sediment was 94.1 percent (the second highest value in 2018). However, motile diatom taxa made up only 13.9 percent of the assemblage.

Table 6-4. Summary of potential stressors in the Silver Bow Creek watershed based on the narrative interpretations. September 17-21, 2018.

Site	Site Description	Nutrients	Metals	Sediment
SS-01	Blacktail Creek at Father Sheehan Park		?	+
SS-05A	Silver Bow Creek above Butte Reduction Works		?	+
SS-06G	Silver Bow Creek above Butte WWTP		?	++
SS-07	Silver Bow Creek below Butte WWTP	+	?	++
SS-08	Silver Bow Creek at Rocker	+		++
SS-10A	Silver Bow Creek above Sand Creek	+		+++
SS-11C	Silver Bow Creek above Browns Gulch	+		++
SS-11D	Silver Bow Creek below Browns Gulch	+	?	++
SS-13	Silver Bow Creek in Reach L	+	?	++
SS-14	Silver Bow Creek at Miles Crossing	+	?	++
SS-15A-2	Silver Bow Creek above German Gulch	+	+	++
SS-15G	German Gulch near confluence			+
SS-15B	Silver Bow Creek below German Gulch	+	+	++
SS-16B	Silver Bow Creek in Reach P near Fairmont	+	+	++
SS-17D	Silver Bow Creek below Stewart St at Opportunity	+	?	++
SS-19	Silver Bow Creek at Frontage Road	++		+++

(blank) No impairment suggested.

? Overall evidence suggested some impairment, but the evidence was inconclusive.

\+ Overall evidence suggested minor impairment.

++ Overall evidence suggested moderate impairment.

+++ Overall evidence suggested severe impairment.

6.4 DISCUSSION

All sites were assessed as in either “good” or “excellent” condition based on the overall Biological Integrity Score in Table 6-3. This score was based on the combination of the all metrics in Table 6-3. However, individual metrics did detect impairment. Some diatom metrics that detected more general impairment (Diatom Species Richness, Shannon Diversity, Disturbance Index) rated all sites as unimpaired. However, the Pollution Index indicated that all sites, except Site SS-15G, were mild to moderately impaired. In addition, the relative abundance of the Dominant Taxon metric indicated mildly impaired conditions at all sites downstream of and including Site SS-10A, except Sites SS-15A-2 and SS-15B, for which the scores were very close to the cutoff for impairment.

Specific stressors included nutrients, fine sediment and metals. Based on our interpretation of the nutrient metrics (relative abundances of nitrogen-autotrophs, nitrogen-heterotrophs, high oxygen-demand taxa, and oligosaprobous or ß-mesosaprobous diatoms and the probability of impairment by nutrients) 12 sites were impaired (all sites on Silver Bow Creek downstream of

and including Site SS-07). Based on our interpretation of the diatom metrics associated with fine sediment (Siltation Index, relative abundance of motile taxa, and probability of impairment as a result of fine sediment) all sites were mildly, moderately or severely impaired. Impairment by metals (metrics included relative abundance of metals-tolerant taxa, abnormal cell valves, and probability of impairment by metals) could not be ruled out at Sites SS-01 through SS-07, SS-11D through SS-14, and SS-17D). Mild metals contamination was suggested at Sites SS-15A-2, SS-15B, and SS-16B.

7.0 FISH[57]

7.1 INTRODUCTION

The Upper Clark Fork River (UCFR) was subject to extensive mining and mineral processing activities during the late 19th and early 20th centuries. Metal contamination from these activities have reduced habitat quality and altered the fishery in the UCFR. Fishery changes include reduced trout numbers and changes in species composition. Because of these negative impacts, angling use of the Clark Fork River is lower than other streams in western Montana. Extensive remediation and restoration efforts are under way and these efforts aim to mitigate historical mining and smelting damage to natural resources in the Upper Clark Fork River Basin (UCFRB). Effects of these actions have been dramatic in Silver Bow Creek, where completed remedial activities have allowed the return of fish to a river where fish were extirpated for more than a century [Naughton, 2013]. The Silver Bow Creek fishery will continue to change in response to improvements in water quality, maturation of riparian vegetation, natural changes in river morphology, tributary restoration projects, flow enhancement, and other factors. Remedial efforts on the mainstem of the Clark Fork River are more recent and the area slated for restoration projects is vast (see Saffel et al. [2018]). Thus, monitoring fisheries responses to restoration needs to be done at multiple spatial and temporal scales [Geum Environmental, 2015]. This monitoring program evaluates the UCFRB remediation program at the basin (mainstem river), watershed (i.e., individual tributaries), and project (site) scales.

In the past, fisheries data collection was conducted sporadically in the UCFRB. From 2008 to 2010, Montana Fish, Wildlife & Parks (FWP) biologists established long-term monitoring sections on the mainstem UCFR. FWP has completed population estimates in these sections each of the subsequent years. These mainstem population surveys provide a dataset that can be used to evaluate the mainstem Clark Fork River fishery before, during, and after restoration and remediation actions. Annual fisheries surveys in Silver Bow Creek began on 2013. Silver Bow Creek surveys initially consisted of one-pass electrofishing conducted in the fall at four sections. In 2014, two more sections were added and sampling occurred in spring and fall. In 2015, the first fish population estimates were attempted on Silver Bow Creek, both in spring and fall. The spring sampling was shifted to summer from 2016-2018 and population estimates are now attempted summer and fall at six sections. The summer sampling is conducted during the period of low flows and high water temperatures. Low dissolved oxygen has been documented in the past during the summer and hypoxic areas of Sliver Bow Creek tend to be devoid of trout during this period [Naughton, 2013]. Fall sampling is focused on evaluating fish numbers and distribution when water temperatures have cooled and dissolved oxygen concentrations are more favorable to fish.

[57] Chapter 7 was prepared by N. Cook and T. Elam with Montana Fish, Wildlife & Parks (Missoula, Montana) with minor editing and formatting by RESPEC.

7.2 METHODS

Silver Bow Creek was sampled at six sections using backpack electrofishing. Two or three pass depletion estimates [Zippin, 1958] were conducted when enough numbers of fish were captured on the first pass and numbers of a particular species declined in subsequent electrofishing passes. Flows in Silver Bow Creek during the 2018 August sampling were about double the average, which made it difficult to efficiently capture fish. Flows remained high throughout the fall and were about 1.5 times the average flow during the October sampling. Therefore, population estimates and catch-per-unit-effort (CPUE) data for 2018 should be interpreted with caution.

7.3 RESULTS

For the summer sampling, population estimates could be generated in all sections except Rocker (Table 7-1). Summer Westslope Cutthroat Trout densities were estimated to be 3 fish/100 m at Fairmont, 11 fish/100 m at German Gulch, and 3 fish/100 m at Ramsay. From 2015-2018, summer Westslope Cutthroat Trout estimates averaged 9 fish/100 m (standard deviation [SD] = 8.5) at Fairmont, 11 fish/100 m at German Gulch, and 5 fish/100 m (SD = 2.1) at Ramsay (Figure 7-3). Brook Trout were estimated at 2 fish/100 m at Fairmont, 6 fish/100 m at German Gulch, and 3 fish/100 m at LAO. From 2015-2018, summer Brook Trout estimates averaged 13 fish/100 m (SD = 9.7) at Fairmont and 6 fish/100 m (SD = 1.5) at German Gulch. During fall sampling, estimates were generated for Fairmont, German Gulch, and Ramsay (Table 7-2). Fall Westslope Cutthroat Trout densities were estimated to be 5 fish/100 m at Fairmont, 3 fish/100 m at German Gulch, and 6 fish/100 m at Ramsay. From 2015-2018, fall Westslope Cutthroat Trout estimates averaged 6 fish/100 m (SD = 2.9) at Fairmont, 4 fish/100 m (SD = 2.2) at German Gulch, and 4 fish/100 m (SD = 1.8) at Ramsay (Figure 7-4). Brook Trout were estimated at 2 fish/100 m at German Gulch, 2 fish/100 m at Ramsay, and 3 fish/100 m at LAO in the fall estimates.

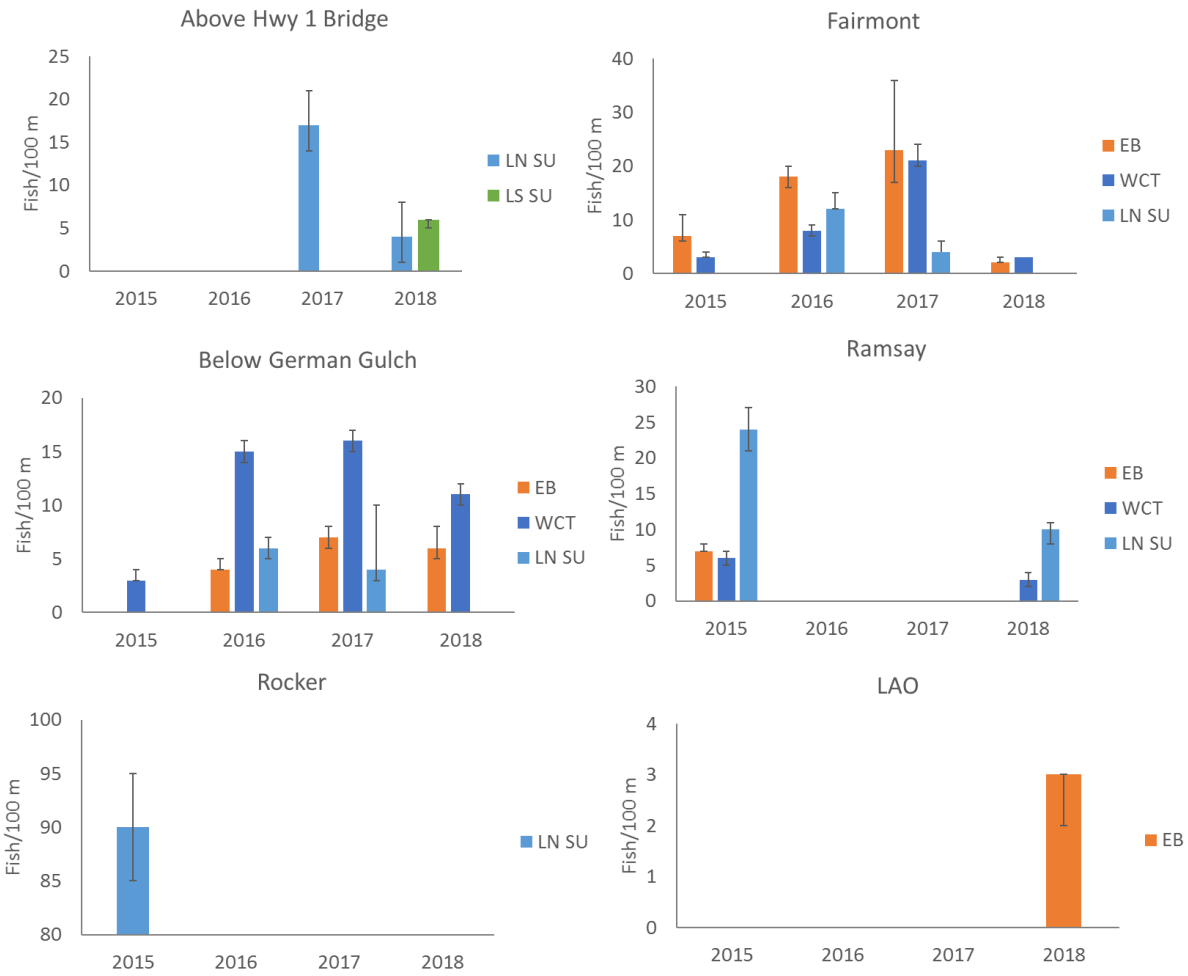

Figure 7-1. Summer population estimates for Silver Bow Creek sampling sections.[58]

[58] Species abbreviations are: Westslope Cutthroat Trout = Westslope Cutthroat Trout, EB = Brook Trout, RB = Rainbow Trout, LS SU = Largescale Sucker, and LN SU = Longnose Sucker.

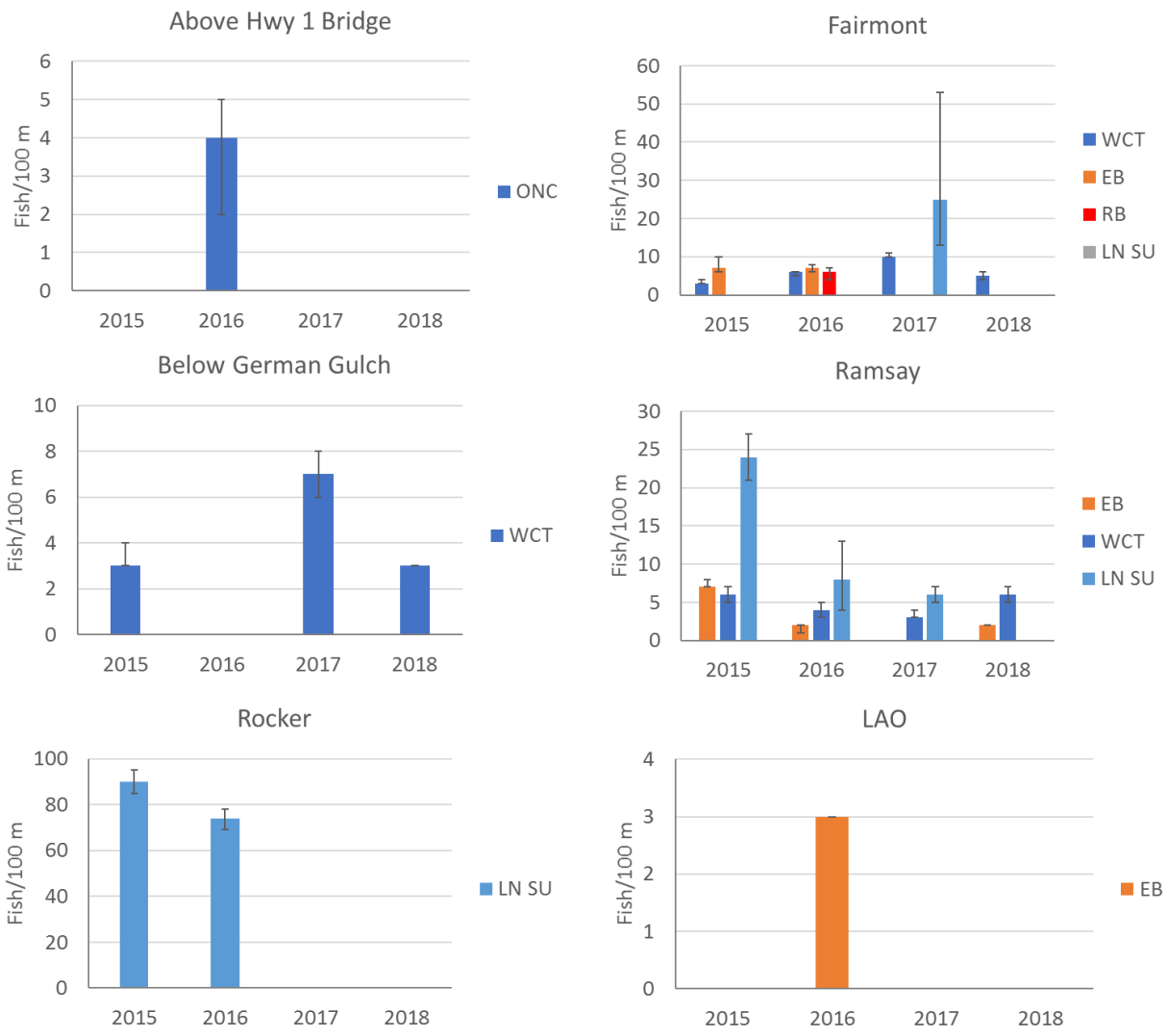

Figure 7-2. Fall population estimates for Silver Bow Creek sampling sections.[59]

[59] Species abbreviations are: ONC = *Oncorhynchus* species, WCT = Westslope Cutthroat Trout, EB = Brook Trout, RB = Rainbow Trout, and LN SU = Longnose Sucker.



Figure 7-3. Fish catch-per-unit-effort (CPUE) during summer electrofishing at six sections of Silver Bow Creek.[60] The *y*-axis is number of fish caught per minute of electrofishing during the first pass.

[60] Species abbreviations are: WCT = Westslope Cutthroat Trout, EB = Brook Trout, RB = Rainbow Trout, RM COT = Rocky Mountain Sculpin, LN SU = Longnose Sucker, and CM MN = Central Mudminnow.



Figure 7-4. Fish catch-per-unit-effort (CPUE) during fall electrofishing at six sections of Silver Bow Creek.[61] The *y*-axis is number of fish caught per minute of electrofishing during the first pass.

[61] Species abbreviations are: WCT = Westslope Cutthroat Trout, EB = Brook Trout, RB = Rainbow Trout, RM COT = Rocky Mountain Sculpin, LN SU = Longnose Sucker, LS SU = Largescale Sucker, and CM MN = Central Mudminnow.

Table 7-1. Electrofishing data collected on Silver Bow Creek in August 2018. Population estimates are for fish greater than 75 mm (about 3 inches) in total length.

Section	Species	Population Estimate (fish/100 m)	95% Confidence Interval for Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Above Hwy 1 Bridge	Westslope Cutthroat Trout	---	---	3	253	191-345	4
	Brook Trout	---	---	4	1252	230-262	5
	Rainbow Trout-Westslope Cutthroat Trout hybrid	---	---	1	211	211	1
	Rainbow Trout	---	---	3	275	215-385	4
	Longnose Sucker	4	2-6	12	148	99-184	16
	Largescale Sucker	6	5-6	18	167	90-500	23
	Rocky Mountain Sculpin	---	---	26	79	44-120	34
	Redside Shiner	---	---	10	87	35-115	13
Fairmont	Westslope Cutthroat Trout	3	3-3	10	245	159-354	5
	Brook Trout	2	2-3	8	149	97-214	4
	Rainbow Trout-Westslope Cutthroat Trout hybrid	---	---	5	208	183-223	2
	Longnose Sucker	---	---	20	168	132-198	10
	Largescale Sucker	---	---	12	159	91-204	6
	Rocky Mountain Sculpin	---	---	69	76	31-101	33
	Redside Shiner	---	---	84	89	60-109	40
Below German Gulch	Westslope Cutthroat Trout	11	10-12	42	214	51-396	41
	Brook Trout	6	5-8	22	136	85-286	22
	Rocky Mountain Sculpin	---	---	38	70	40-106	37
Ramsay	Westslope Cutthroat Trout	3	2-4	10	263	189-351	14
	Longnose Sucker	10	8-11	40	119	44-175	57
	Rocky Mountain Sculpin	---	---	16	81	45-107	23
	Central Mudminnow	---	---	4	79	69-92	6
Rocker	Longnose Sucker	---	---	62	149	78-208	78
	Rocky Mountain Sculpin	---	---	12	98	55-117	15
	Central Mudminnow	---	---	6	87	76-98	7
LAO	Westslope Cutthroat Trout	---	---	2	306	276-335	2
	Brook Trout	3	2-3	6	300	233-342	5
	Longnose Sucker	---	---	1	83	83	1
	Rocky Mountain Sculpin	---	---	122	92	37-120	91
	Central Mudminnow	---	---	2	85	84-86	2

Table 7-2. Electrofishing data collected on Silver Bow Creek in October 2018. Population estimates are for fish greater than 75 mm (about 3 inches) in total length.

Section	Species	Population Estimate (fish/100 m)	95% Confidence Interval for Estimate (fish/100 m)	Fish Handled	Mean Length (mm)	Length Range (mm)	Species Composition (%)
Above Hwy 1 Bridge	Rainbow Trout	---	---	3	292	242-393	60
	Rocky Mountain Sculpin	---	---	2	65	45-85	40
Fairmont	Westslope Cutthroat Trout	5	4-6	17	254	177-367	22
	Brook Trout	---	---	14	154	108-255	18
	Longnose Sucker	---	---	20	181	136-210	26
	Largescale Sucker	---	---	10	191	175-230	13
	Rocky Mountain Sculpin	---	---	13	85	48-111	17
	Redside Shiner	---	---	2	104	98-111	3
Below German Gulch	Westslope Cutthroat Trout	3	3-3	13	183	66-297	37
	Brook Trout	2	1-2	7	121	103-164	20
	Rocky Mountain Sculpin	---	---	15	65	42-115	43
Ramsay	Westslope Cutthroat Trout	6	5-7	22	263	225-340	61
	Brook Trout	2	2-2	6	182	147-283	17
	Longnose Sucker	---	---	7	130	98-173	19
	Rocky Mountain Sculpin	---	---	1	101	101	3
Rocker	Westslope Cutthroat Trout	---	---	1	306	306	3
	Brook Trout	---	---	2	198	189-206	5
	Longnose Sucker	---	---	21	134	60-204	57
	Rocky Mountain Sculpin	---	---	12	104	50-211	32
	Central Mudminnow	---	---	1	83	83	3
LAO	Brook Trout	---	---	3	251	243-260	23
	Rocky Mountain Sculpin	---	---	9	91	52-109	69
	Central Mudminnow	---	---	1	85	85	8

7.4 DISCUSSION

The Fairmont and Below German Gulch Sections support the highest densities of Westslope Cutthroat Trout in Silver Bow Creek during the summer. During fall sampling, Westslope Cutthroat Trout were present in the Ramsay Section in numbers similar to Below German Gulch and Fairmont. Naughton [2013] found that Westslope Cutthroat Trout in Silver Bow Creek dispersed in the fall from the area around German Gulch into other areas. This dispersal is facilitated by lower water temperatures and increases in dissolved oxygen

in the fall months. It appears that the distribution of the Silver Bow Creek Westslope Cutthroat Trout population is centered around German Gulch and expands upstream to Ramsay during the cooler months. Individual Westslope Cutthroat Trout are occasionally caught in other Silver Bow Sections (i.e., Highway 1, Rocker, and LAO), but Westslope Cutthroat Trout have yet to establish a true population in these areas. Westslope Cutthroat Trout have also been captured in another Silver Bow Creek sampling section. This section, not sampled in 2018, is located near Father Sheehan Park in the city of Butte. Westslope Cutthroat Trout from the Father Sheehan Section are thought to be from Blacktail Creek, which is another potential source of Westslope Cutthroat Trout recruitment for Silver Bow Creek (J. Lindstrom, FWP, *personal communication*).

8.0 GEOMORPHOLOGY

8.1 INTRODUCTION

Geomorphology was monitored in Subareas 2, 3, and 4 of the Streamside Tailings Operable Unit (SSTOU) in 2018 to evaluate conditions in the stream channel compared to project reference values and to assess potential ongoing maintenance needs. Monitoring is conducted at each site five and ten years after remediation was completed. In 2018, monitoring was conducted at seven sites: three Subarea 2 sites, two Subarea 3 sites, and two Subarea 4 sites (Figure 8-1). In the Subarea 2 sites, monitoring was conducted for the second time and represents conditions ten years after remediation. At the Subarea 3 and 4 sites, monitoring was conducted for the first time and represents conditions five years after remediation. Specific parameters at each site were compared to geomorphic reference values as described in the long-term monitoring plan for Silver Bow Creek [DEQ and NRDP, 2004].

8.2 METHODS

The sampling methods employed in this evaluation were established in an early version of the SSTOU monitoring plan [DEQ and NRDP, 2004] and are described in the 2018 update to the project sampling and analysis plan [RESPEC, 2018b]. These methods were largely derived from components of the environmental monitoring and assessment program (EMAP) protocols developed by the U.S. Environmental Protection Agency to evaluate wadeable streams [Peck et al., 2001].

8.2.1 Monitoring Locations

Monitoring was conducted at seven Silver Bow Creek sites in 2018 (Figure 8-1). At each site, a 1,000-foot reach was established and geomorphic channel characteristics were described within each 1000-foot reach. Monitoring sites were generally extended downstream from the surface water sampling site in accordance with project precedents [DEQ and NRDP, 2004]. However, deviations from this protocol were made at some sites to avoid particular obstacles. The monitoring reaches at Sites SS-13, SS-15B, and SS-19 were extended upstream from the surface water sample sites to avoid obstacles; specifically a road culvert and railroad bridge located downstream from Site SS-13, the German Gulch tributary confluence downstream from Site SS-15A-2, and a local roadway (Frontage Road) and highway (Interstate 90) downstream from Site SS-19. The monitoring reach downstream from Site SS-15B was reduced to 637 feet because in that reach the stream enters a narrow, hazardous channel tightly constrained by railroad and roadway grades.

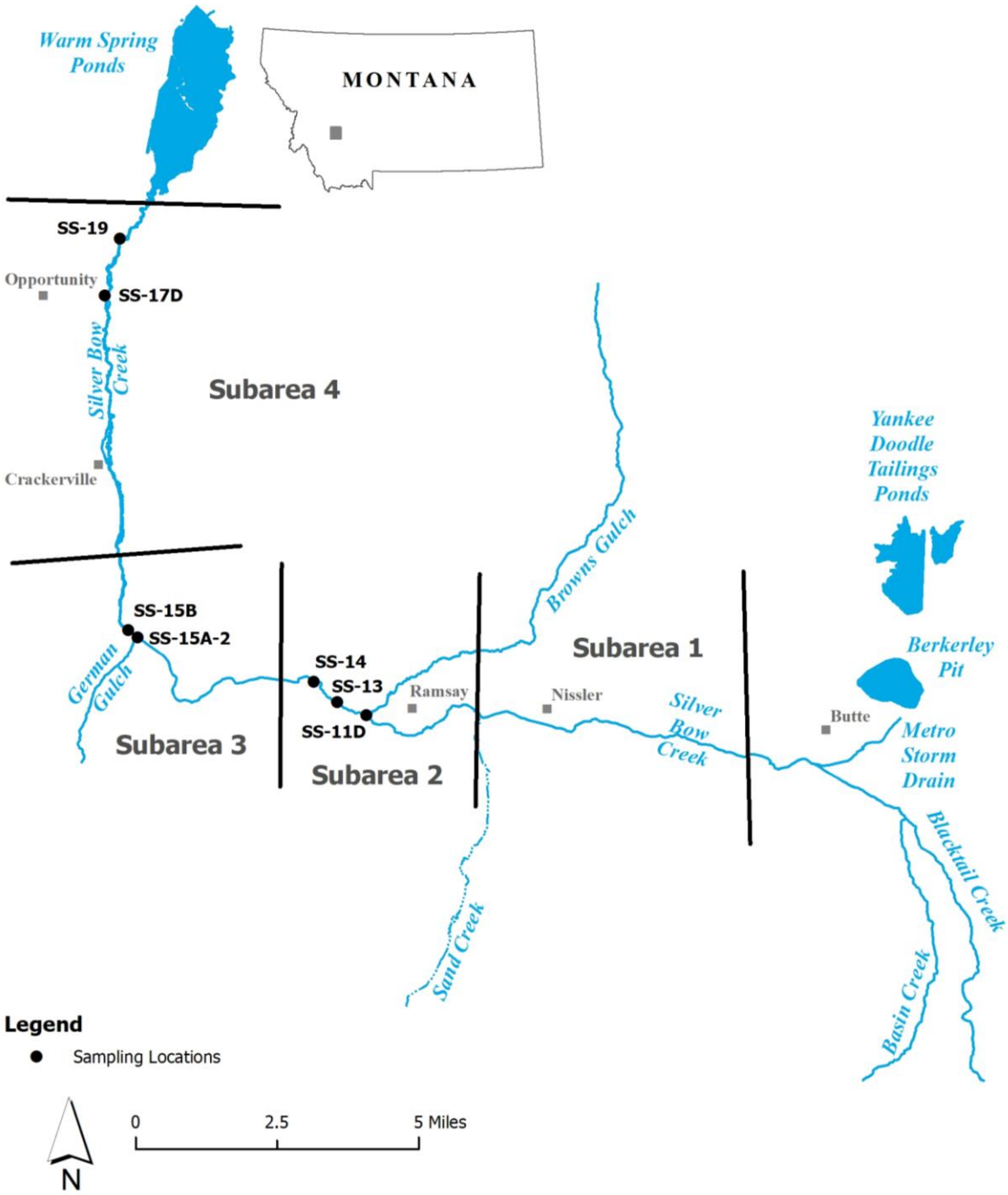

Figure 8-1. Geomorphic monitoring reaches and remedial Subareas in the Streamside Tailings Operable Unit, 2018.

8.2.2 Monitoring Schedule

Geomorphic monitoring occurs at each monitoring site initially after five years have elapsed since remediation was completed and again after ten years [DEQ and NRDP, 2004]. Monitoring has now been conducted in all SSTOU sites (Table 8-1). Monitoring in 2018 was conducted for the second time (i.e., ten year post-remediation monitoring) in the Subarea 2 sites (Sites SS-11D, SS-13, and SS-14) and for the first time (i.e., five year post-remediation monitoring) in the Subarea 2 and 3 sites (Sites SS-15A-2, SS-15B, SS-17D, and SS-19) (Table 8-1). In 2018, field data was collected from September 5-6, 2018.

Table 8-1. Geomorphic monitoring schedule for the Streamside Tailings Operable Unit. Sites are to be monitored at five year intervals after remediation has been completed in each associated reach [DEQ and NRDP, 2004][62].

Subarea	Reach	Sites within Reach	Year remedy completed	Monitoring Scheduled		Monitoring Occurred		Monitored in 2018
				5-Year	10-Year	5-Year	10-Year	
1	A	SS-07	2003	2008	2013	-	2013	
	B	SS-08	2003	2008	2013	2007	2013	
	E	SS-10A	2003	2008	2013	2009	2014	
2	F	SS-10B	2004	2009	2014	2009	2014	
	H	SS-11C	2006	2011	2016	2011	2016	
	I	SS-11D	2008	2013	2018	2012	2018	X
		SS-13	2008	2013	2018	2014	2018	X
	J	SS-14	2008	2013	2018	2014	2018	X
3	M	SS-15A	2013	2018	2023	2018		X
		SS-15B	2013	2018	2023	2018		X
4	P	SS-16B	2010	2016	2021	2016		
	T	SS-17D	2013	2018	2023	2018		X
		SS-19	2013	2018	2023	2018		X

8.2.3 Monitoring Parameters

Geomorphic monitoring metrics and reference values for those metrics are described in Table 8-2. The monitoring metrics include assessments of pool availability; channel morphology; and the availability of overhead cover for aquatic animals as provided by undercut banks, the riparian canopy, streamside vegetation, and instream wood.

[62] Some SSTOU monitoring sites (Sites SS-01, SS-05A, SS-06G, and SS-15G) are monitored for other environmental media (e.g., surface water) but these sites are located outside the SSTOU. Geomorphology will not be monitored at those sites unless requested by DEQ.

Table 8-2. Reference value for geomorphic monitoring metrics in the Streamside Tailings Operable Unit following remediation.

Monitoring Metric	Year (post-remediation)	
	5	10
Percent pools (%)	20-50	20-50
Average width to depth ratio	8-14	8-14
Undercut banks (%)	8-20	8-20
Riparian cover; overstory (>5 m) canopy (%)	45-65	45-65
Channel cover (%)	15-35	15-35
Woody debris (%)	15-35	15-35

8.2.4 Sample Collection and Analysis

8.2.4.1 Percent Pools

At each monitoring site, a longitudinal profile (approximately 1,000 feet length) of the stream bottom at the channel thalweg was surveyed using a survey grade GPS (accuracy ±3 cm). Maximum spacing between survey points (i.e., spatial coordinates including latitude, longitude, and elevation) was 100 feet. Points were spaced more closely where the channel curved, where secondary channels occurred, at substantial slope inflection points within the channel, and at changes in instream habitat features. Instream habitat features were identified visually and describe the geomorphic channel unit character of the stream (i.e., riffle, run, or pool). The proportion of pool habitat (at the channel thalweg) within the overall 1,000 foot thalweg length of the entire survey section was calculated from data collected in the longitudinal profile.

8.2.4.2 Width to Depth Ratio

Channel cross-sections were surveyed at 100 foot intervals (11 cross-sections total including the upstream and downstream end of the survey section) using a survey grade GPS. Cross-sections were labeled A through K starting at the upstream end of each monitoring site. For each cross-section, at least ten points were surveyed within the bankfull channel, including points at the bankfull channel margin, water edge, thalweg, and all substantial slope inflection points within the channel. For each channel cross-section surveyed, the bankfull width and mean bankfull depth were determined and the channel width to depth ratio (the quotient of the bankfull width and mean bankfull depth) was calculated. Cross-sections and longitudinal profiles for each site monitored in 2018 are displayed: SS-11D (Figure 8-2), SS-13 (Figure 8-3), SS-14 (Figure 8-4), SS-15A-2 (Figure 8-5), SS-15B (Figure 8-6), SS-17D (Figure 8-7), and SS-19 (Figure 8-8).

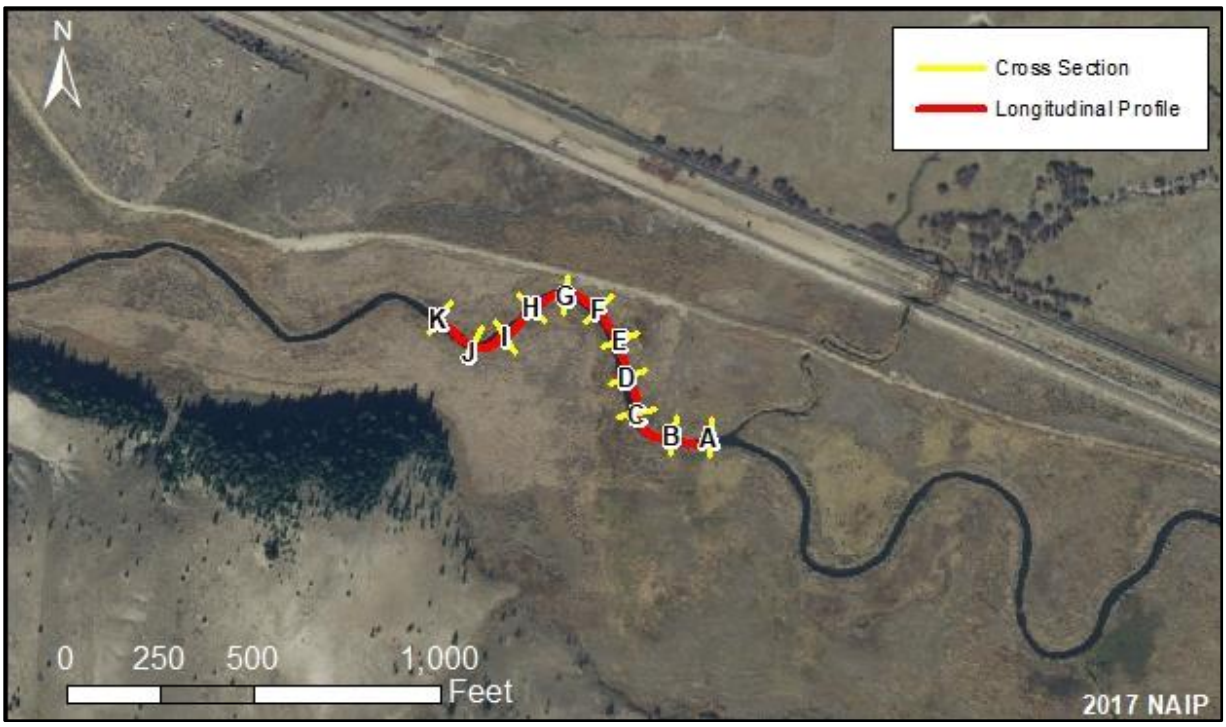

Figure 8-2. Geomorphic monitoring at Site SS-11D (Silver Bow Creek below Browns Gulch) in the Streamside Tailings Operable Unit, 2018.

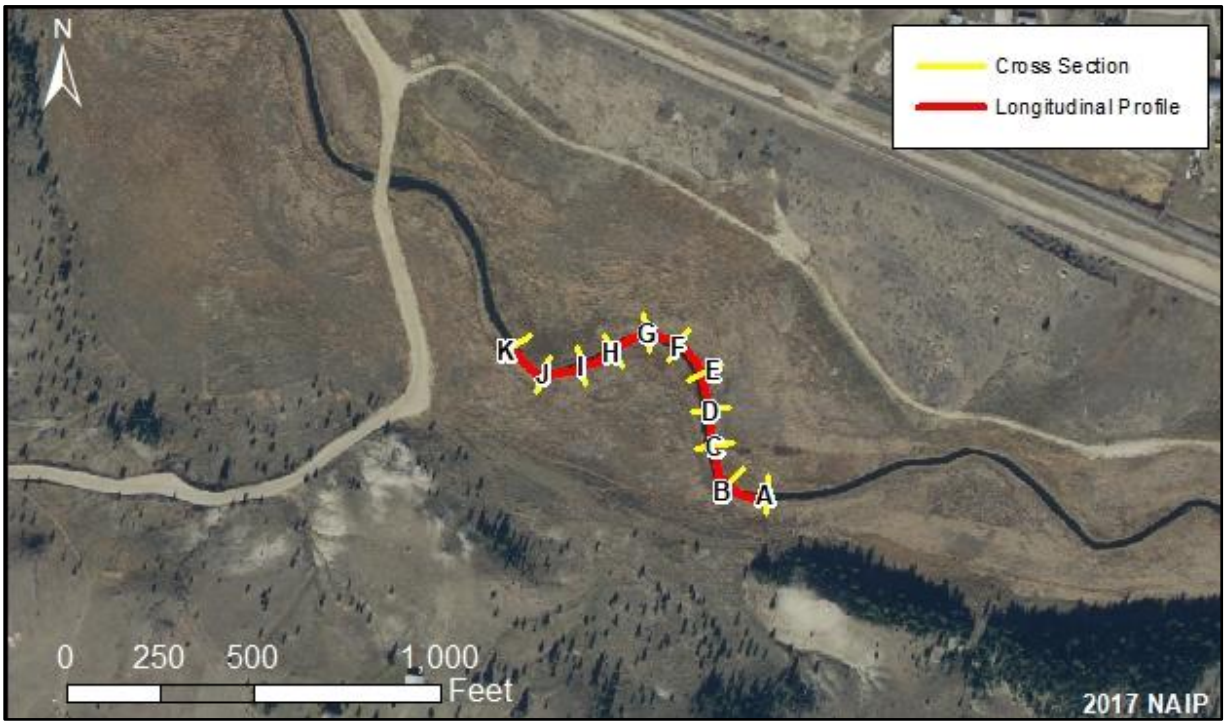

Figure 8-3. Geomorphic monitoring at Site SS-13 (Silver Bow Creek in Reach L) in the Streamside Tailings Operable Unit, 2018.

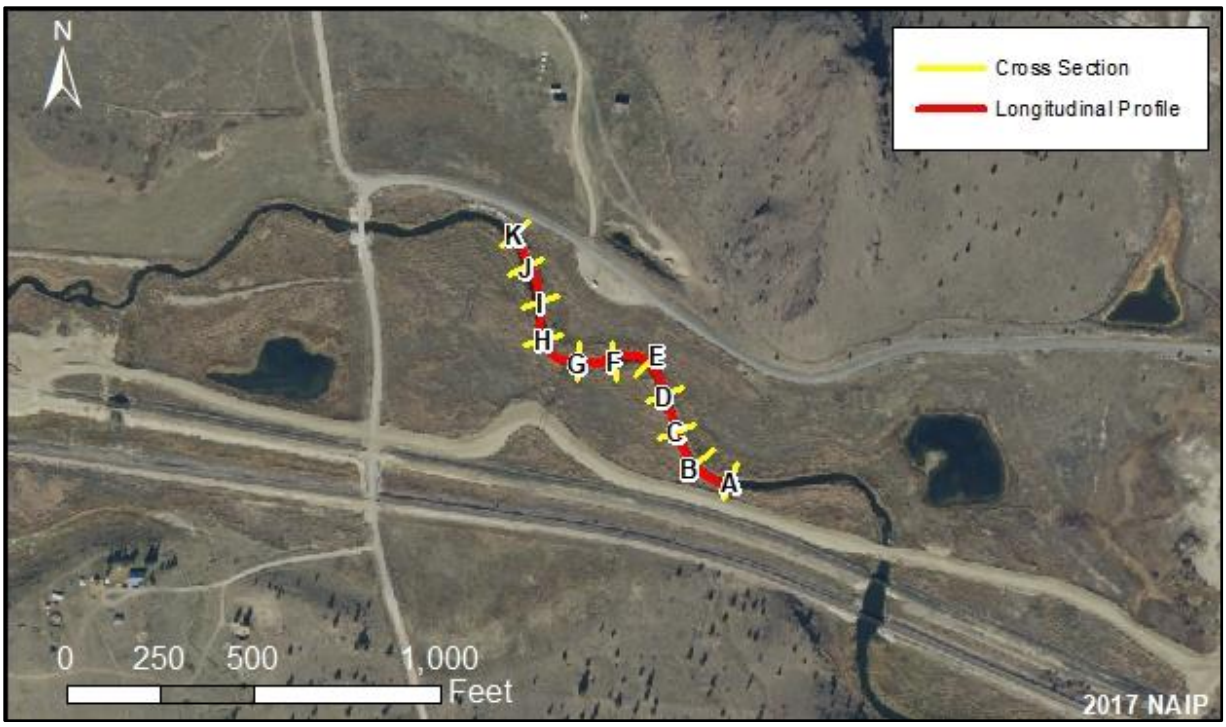

Figure 8-4. Geomorphic monitoring at Site SS-14 (Silver Bow Creek at Miles Crossing) in the Streamside Tailings Operable Unit, 2018.

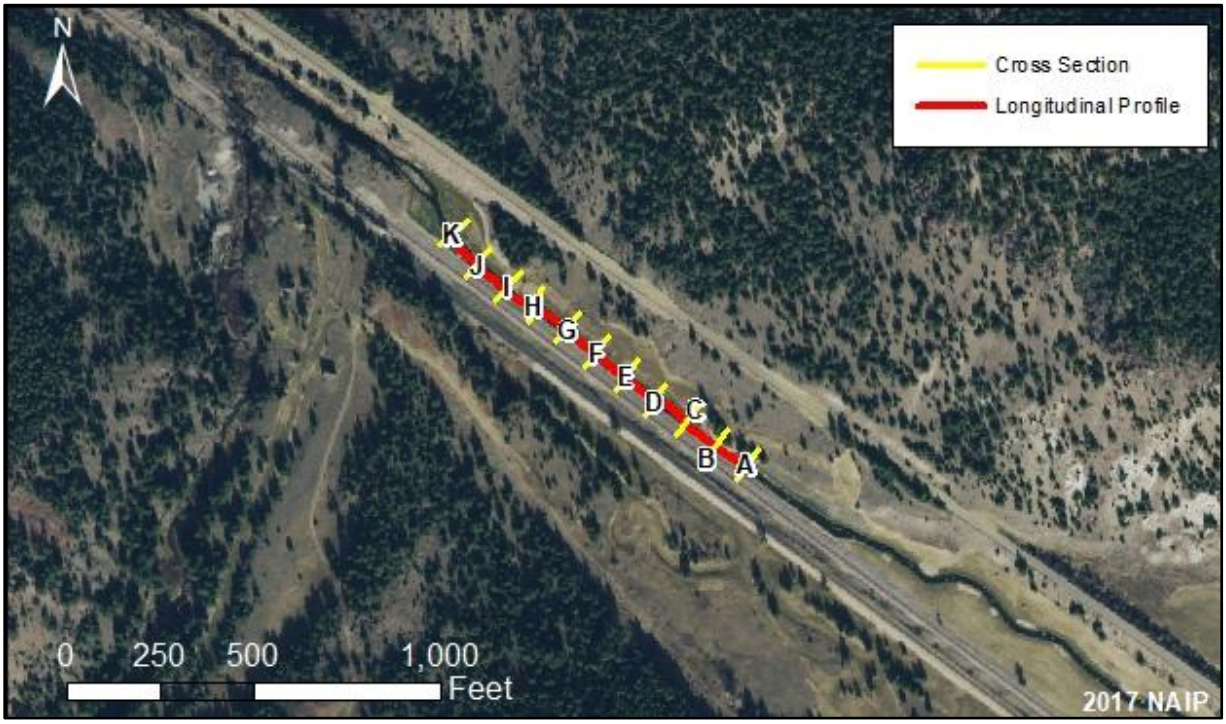

Figure 8-5. Geomorphic monitoring at Site SS-15A-2 (Silver Bow Creek above German Gulch) in the Streamside Tailings Operable Unit, 2018.



Figure 8-6. Geomorphic monitoring at Site SS-15B (Silver Bow Creek below German Gulch) in the Streamside Tailings Operable Unit, 2018.

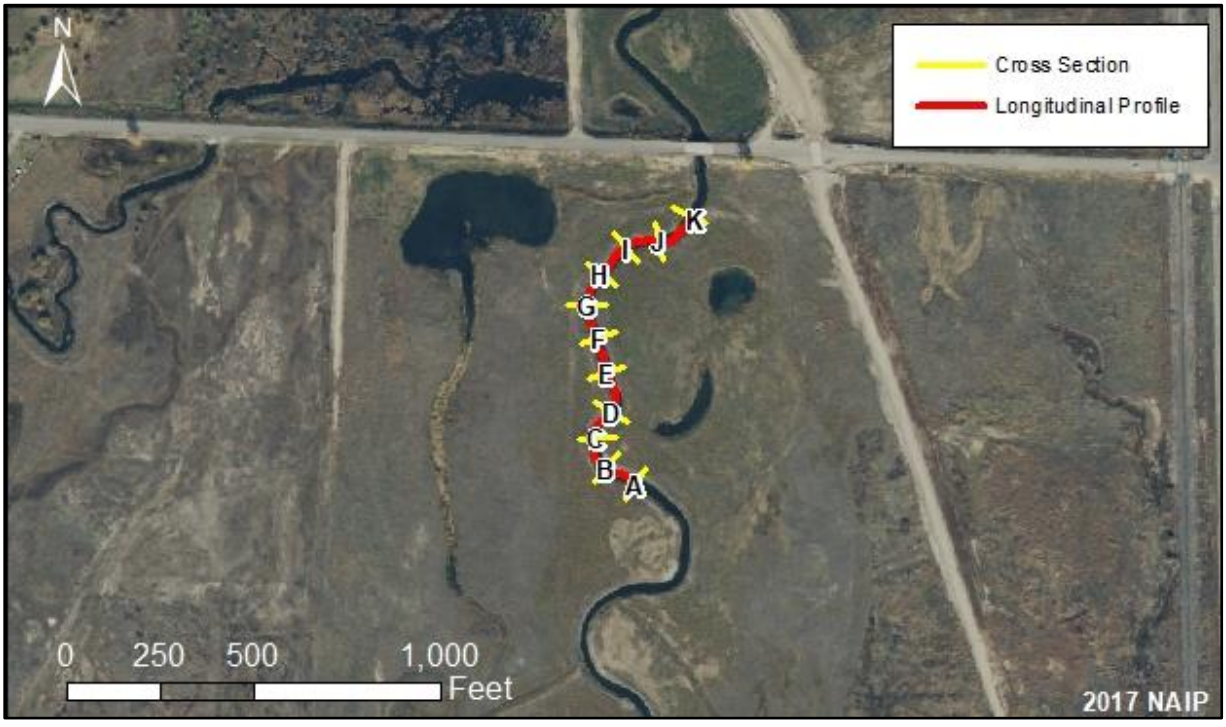

Figure 8-7. Geomorphic monitoring at Site SS-17D (Silver Bow Creek at Opportunity) in the Streamside Tailings Operable Unit, 2018.

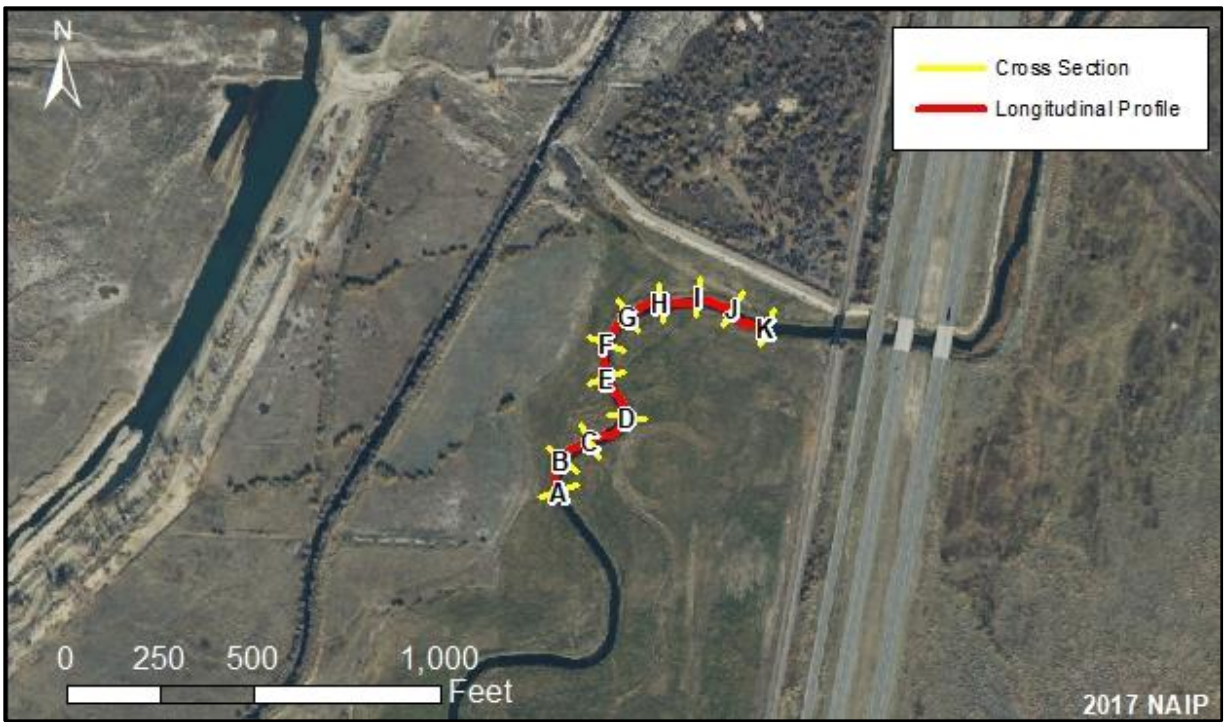

Figure 8-8. Geomorphic monitoring at Site SS-19 (Silver Bow Creek at Frontage Road) in the Streamside Tailings Operable Unit, 2018.

8.2.4.3 Undercut Banks

At each cross-section transect, the areal cover of undercut banks was determined by measuring the length and depth of undercut banks along 15 feet to either side of the cross section intersection with each bank. Thus, 30 feet of streambank were evaluated on river right and 30 feet of streambank were evaluated on river left at each transect. The total length of streambank surveyed was 660 feet, and the number of discrete survey sections along the streambank was 22 for each reach.

8.2.4.4 Riparian Cover

The proportion of areal cover provided by riparian vegetation was estimated visually in 22 discrete monitoring plots (plot area = 900 square feet) in each monitoring reach. Areal cover over the floodplain was estimated for three types of riparian vegetation: ground (annual vegetation; <0.5m), understory (shrubs and willows; 0.5-5 m), and overstory (trees not including willows; >5 m). Square sample plots were located along the streambanks, centered at each cross-section transect, and extending 30 feet back from the streambanks.

8.2.4.5 Channel Cover

At each of the 11 cross-section transects, the areal cover of overhanging vegetation was measured using a spherical densiometer [Peck et al., 2001]. Six measurements were taken at each

of the 11 river transects including measurements at the wetted edge of the right and left banks, and four measurements at the center of stream channel at a height of 1-foot above the surface of the stream. Measurements at the center of the stream channel were made facing upstream, toward the left bank, toward the right bank, and downstream [Peck et al., 2001].

8.2.4.6 Woody Debris

At each of the 11 cross-section transects, the percent of stream channel cover provided by woody debris was estimated within an area extending 15 feet to either side of the cross section along both banks and extending the full width of the stream. Woody debris was defined as having a diameter at least four inches and a length at least five feet [Peck et al., 2001].

8.2.5 Data Analysis

For the monitoring metrics described at each of the cross-section transects (i.e., width to depth ratio, undercut banks, overstory canopy cover, overhanging vegetation, and woody debris cover), the mean of all measurements was compared to the reference value (Table 8-2). The percent of pool habitat was calculated as the proportion of pool length to total channel length within each section.

8.3 RESULTS

8.3.1 Percent Pools

Pools were identified by depressions in the longitudinal profiles from each surveyed reach. Identified pools for each reach are depicted in the longitudinal profiles for Subarea 2 sites (Figure 8-9), Subarea 3 sites (Figure 8-10), and Subarea 4 sites (Figure 8-11). The total length of all pools within each reach was then determined and the proportion of all pools within the reach was determined as the percent pools metric.

In the Subarea 2 sites, pool proportions were 44 percent, 61 percent, and 69 percent in Sites SS-11D, SS-13, and SS-14, respectively (Table 8-3). Site SS-11D was within the reference range (20-50 percent) but the other two Subarea 2 sites were above that range. Three pools were observed in Sites SS-11D and SS-13 and five pools were identified at Site SS-14 (Figure 8-9).

In the Subarea 3 sites, pool proportions were 9 percent and 15 percent in Sites SS-15A-2 and SS-15B, respectively (Table 8-3). Both sites were below the reference range. One pool was observed in Site SS-15A-2 and two pools were observed in Site SS-15B (Figure 8-10).

In the Subarea 4 sites, pool proportions were 45 percent and 63 percent in Sites SS-17D and SS-19, respectively (Table 8-3). Site SS-17D was within the reference range and site SS-19 was above the reference range. At each site, six pools were observed (Figure 8-11).

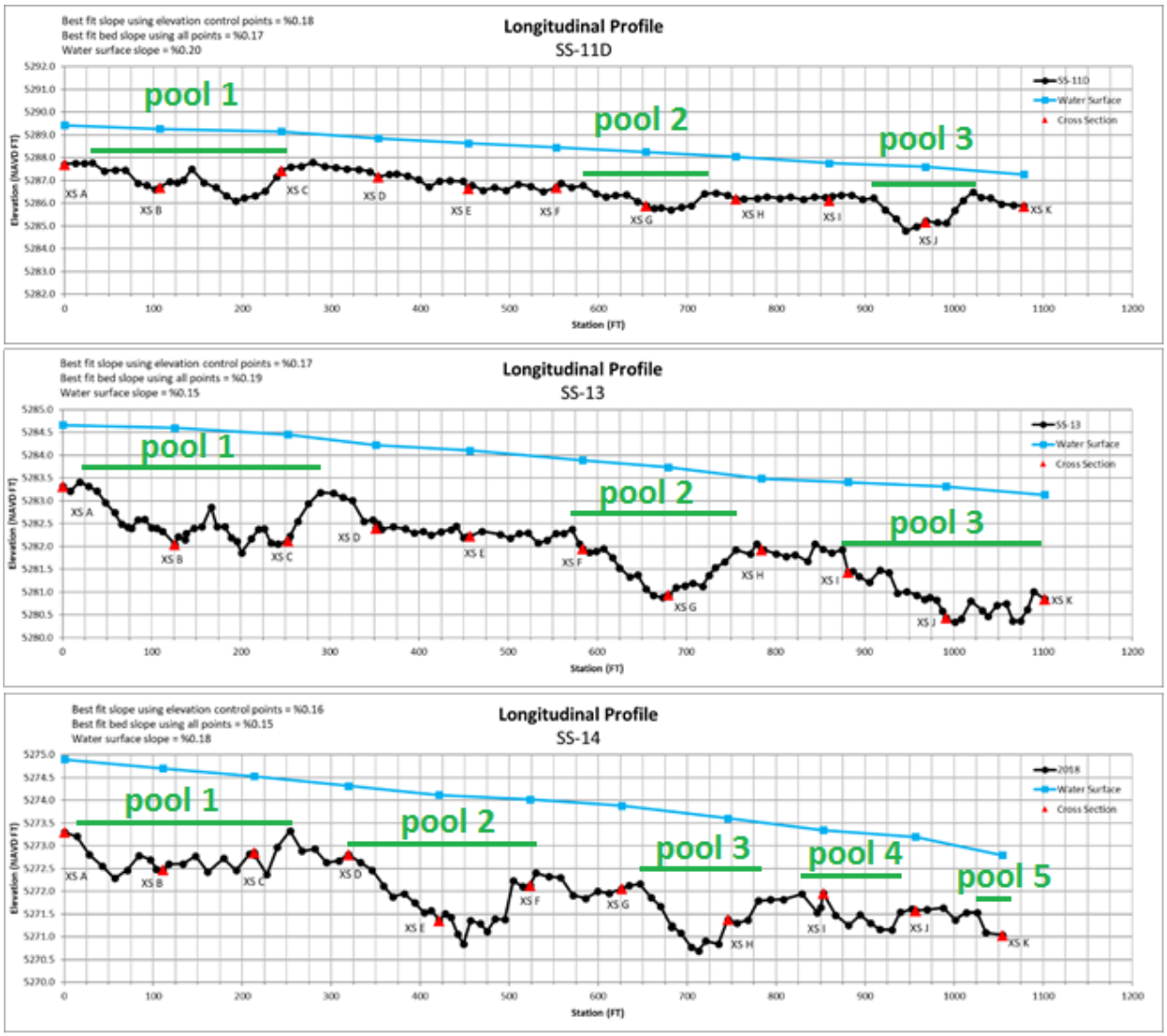

Figure 8-9. Longitudinal profiles of the Silver Bow Creek channel (thalweg) in Subarea 2 monitoring reaches of the Streamside Tailings Operable Unit, 2018.

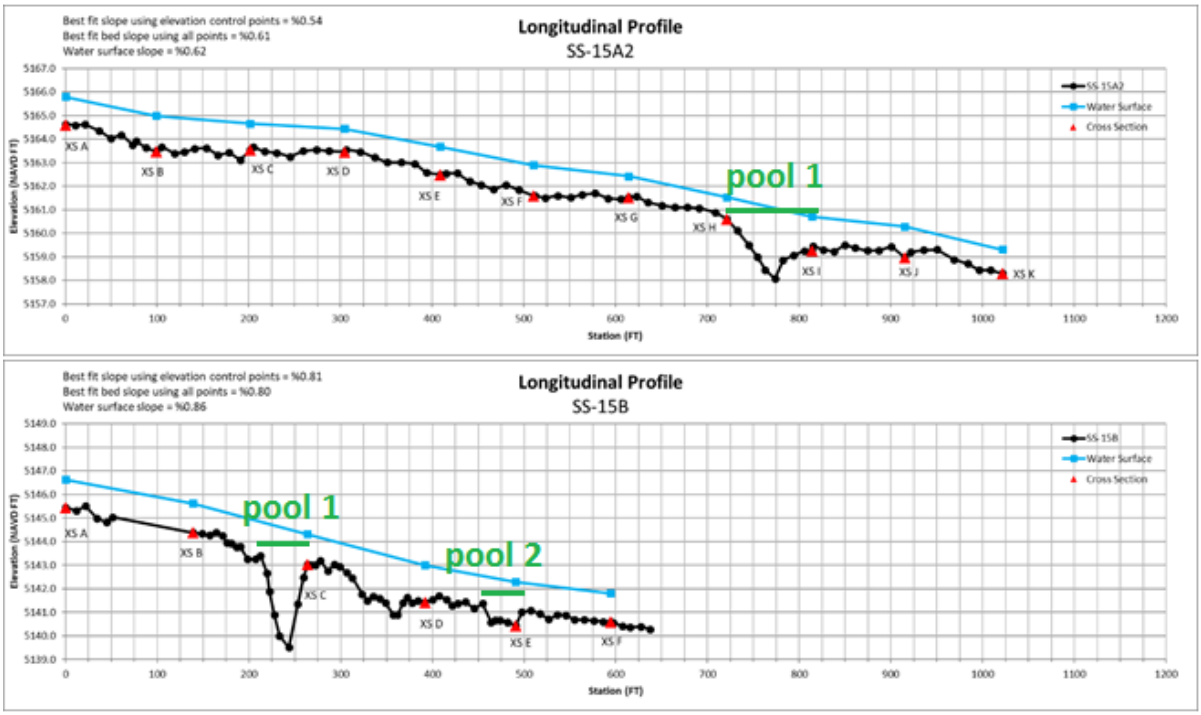

Figure 8-10. Longitudinal profiles of the Silver Bow Creek channel (thalweg) in Subarea 3 monitoring reaches of the Streamside Tailings Operable Unit, 2018.

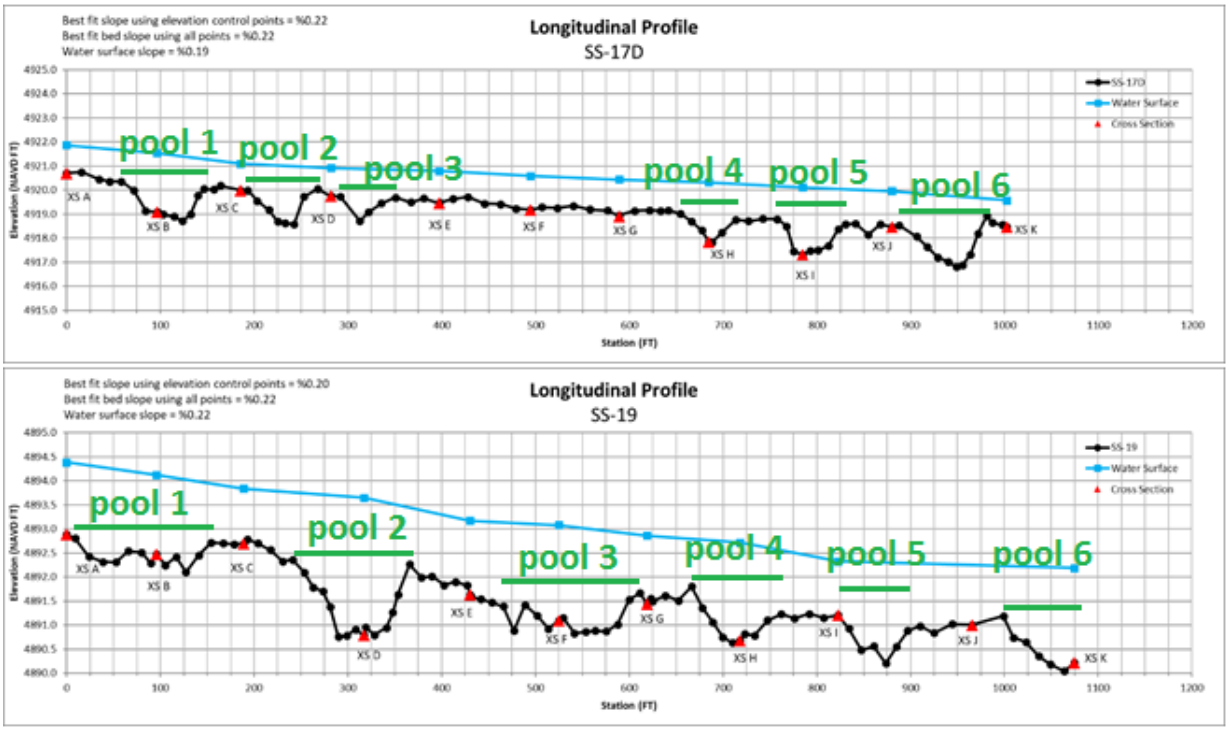

Figure 8-11. Longitudinal profiles of the Silver Bow Creek channel (thalweg) in Subarea 4 monitoring reaches of the Streamside Tailings Operable Unit, 2018.

Table 8-3. Feature lengths in each monitoring reach of the Streamside Tailings Operable Unit, 2018.

Subarea	Monitoring Reach	Length (feet)		Pool Proportion (%)
		Pools	Total	
2	SS-11D	471	1,078	44
	SS-13	669	1,102	61
	SS-14	722	1,054	69
3	SS-15A-2	93	1,022	9
	SS-15B	94	637	15
4	SS-17D	447	1,002	45
	SS-19	674	1,074	63

8.3.2 Width to Depth Ratio

Lateral channel cross sections for each monitoring reach are depicted in Figure 8-12 (Site SS-11D), Figure 8-13 (Site SS-13), Figure 8-14 (Site SS-14), Figure 8-15 (Site SS-15A-2), Figure 8-16 (Site SS-15B), Figure 8-17 (Site SS-17D), and Figure 8-18 (Site SS-19). Mean width to depth ratios among those sites ranged from 17.1 to 21.4 (Table 8-4; Table 8-5; Table 8-6). Within reaches, variation in the width to depth ratios among the cross-sections was quite low with no sites having a standard deviation exceeding 4.9 (Table 8-4; Table 8-5; Table 8-6). All sites had mean width to depth ratios exceeding the reference range (Figure 8-19). The reference range was exceeded in 89 percent of all cross-sections monitored in 2018 (n = 71) and in all cross-sections in Sites SS-15B, SS-17D, and SS-19 (Table 8-4; Table 8-5; Table 8-6).

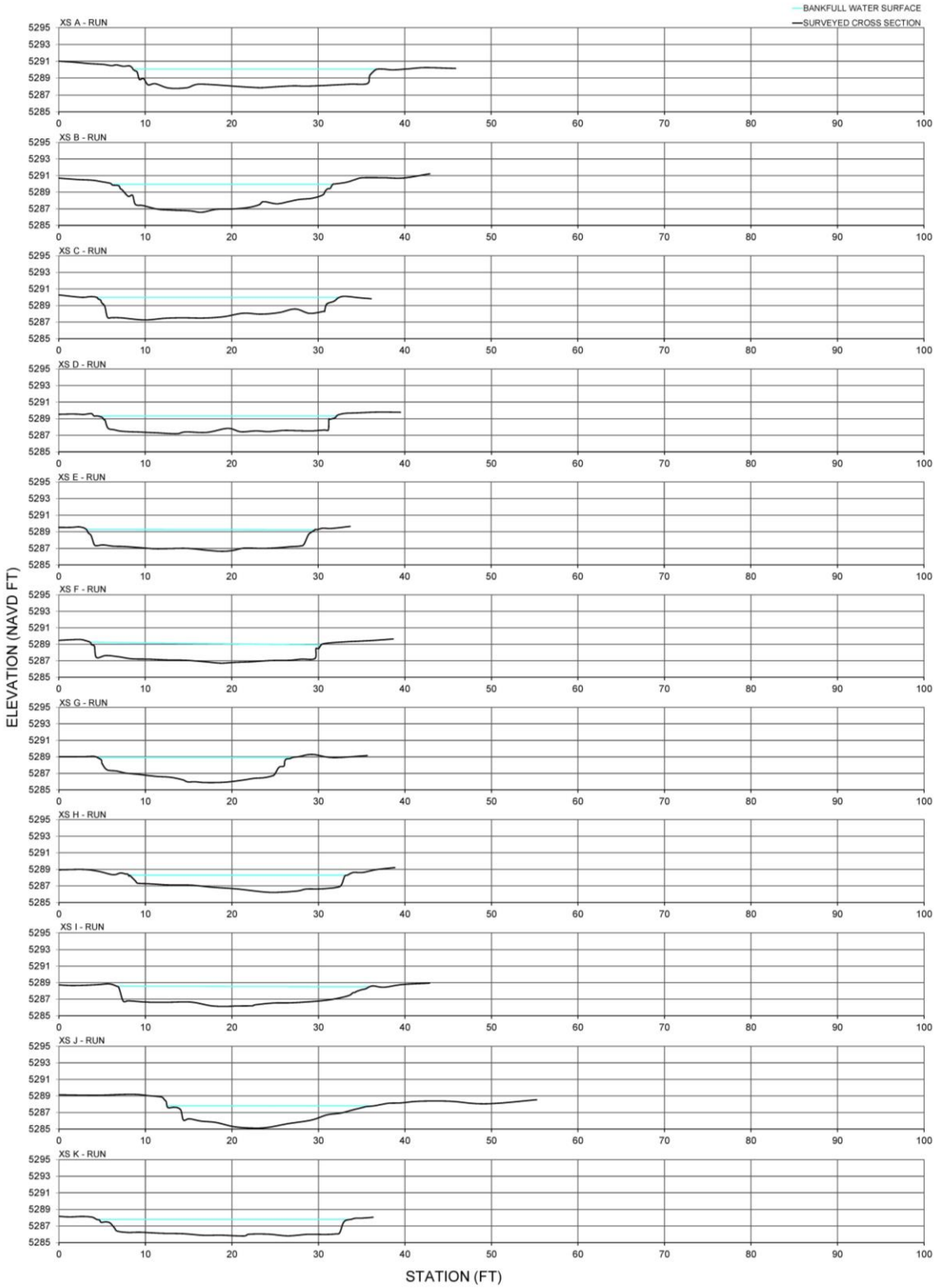

Figure 8-12. Surveyed stream channel cross-sections in Reach SS-11D of the Streamside Tailings Operable Unit, 2018.

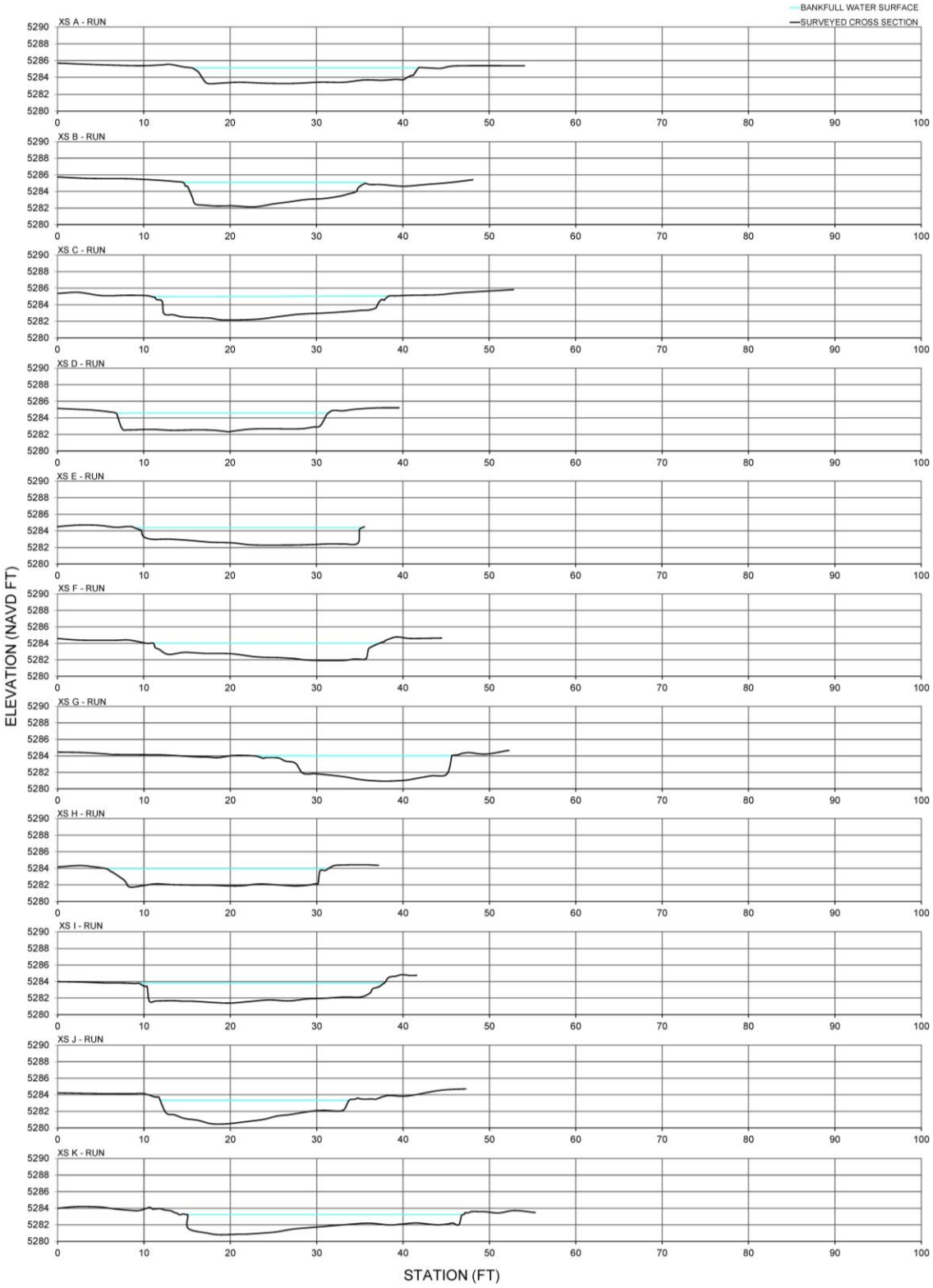

Figure 8-13. Surveyed stream channel cross-sections in Reach SS-13 of the Streamside Tailings Operable Unit, 2018.

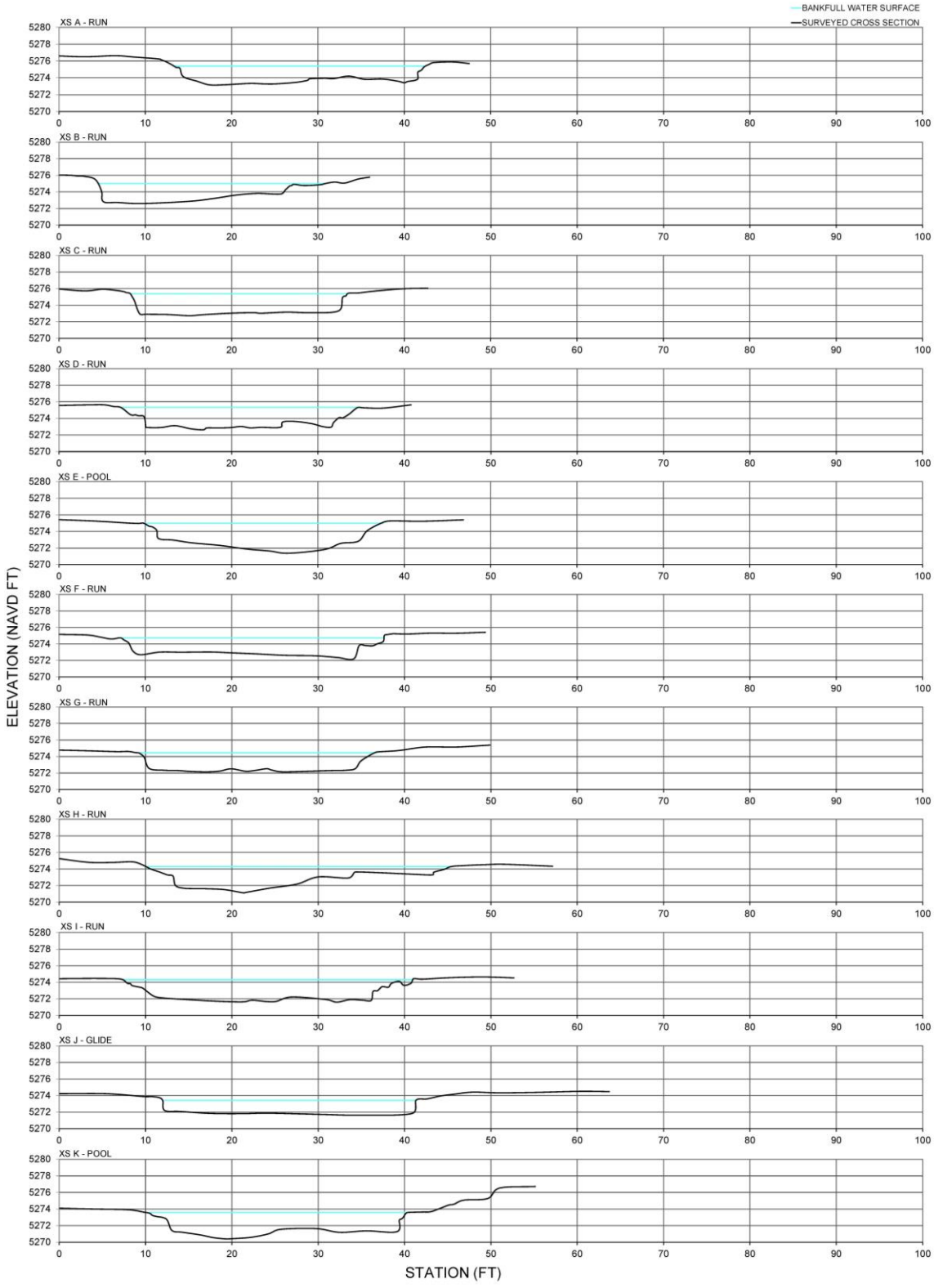

Figure 8-14. Surveyed stream channel cross-sections in Reach SS-14 of the Streamside Tailings Operable Unit, 2018.

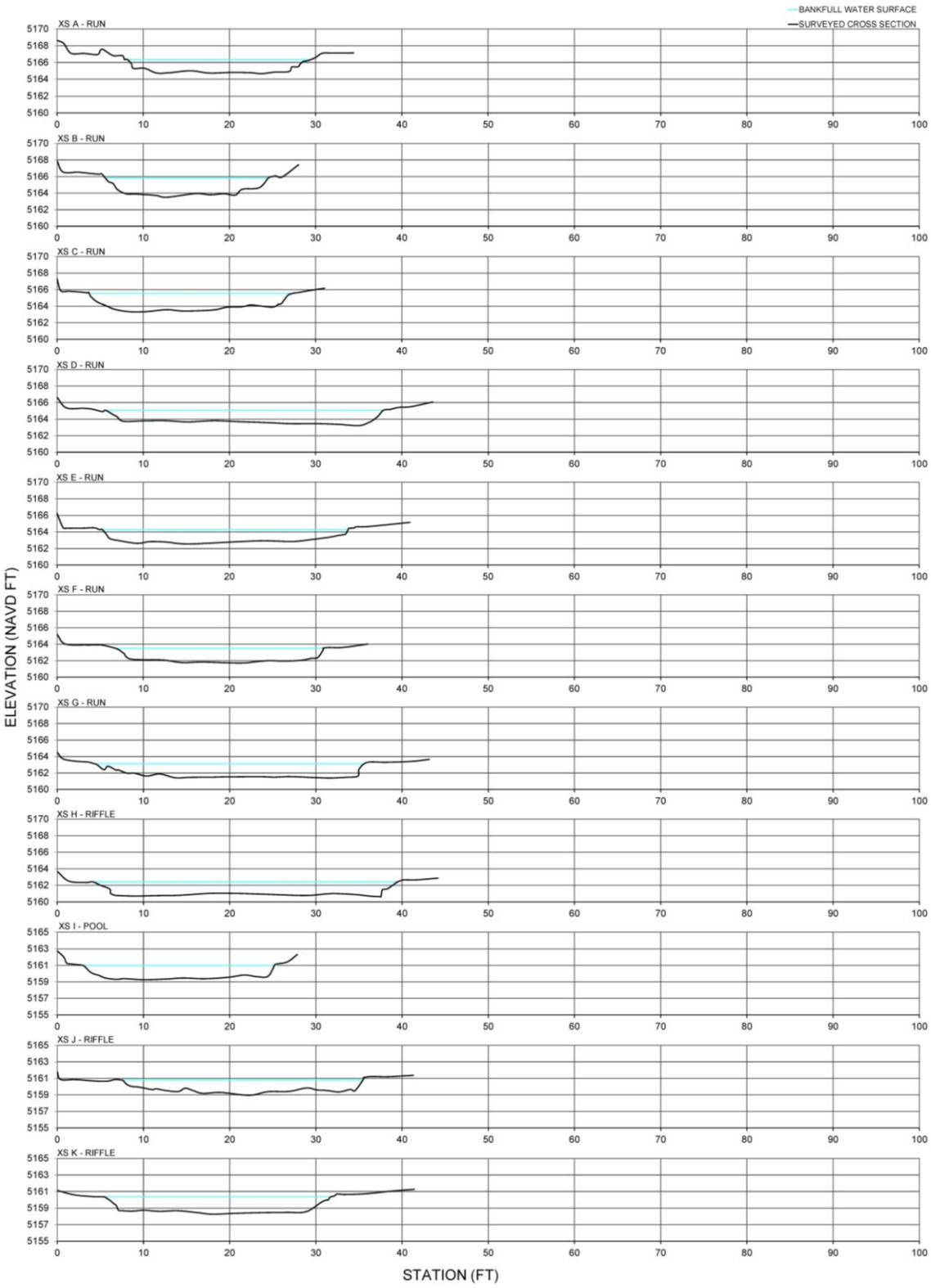

Figure 8-15. Surveyed stream channel cross-sections in Reach SS-15A-2 of the Streamside Tailings Operable Unit, 2018.

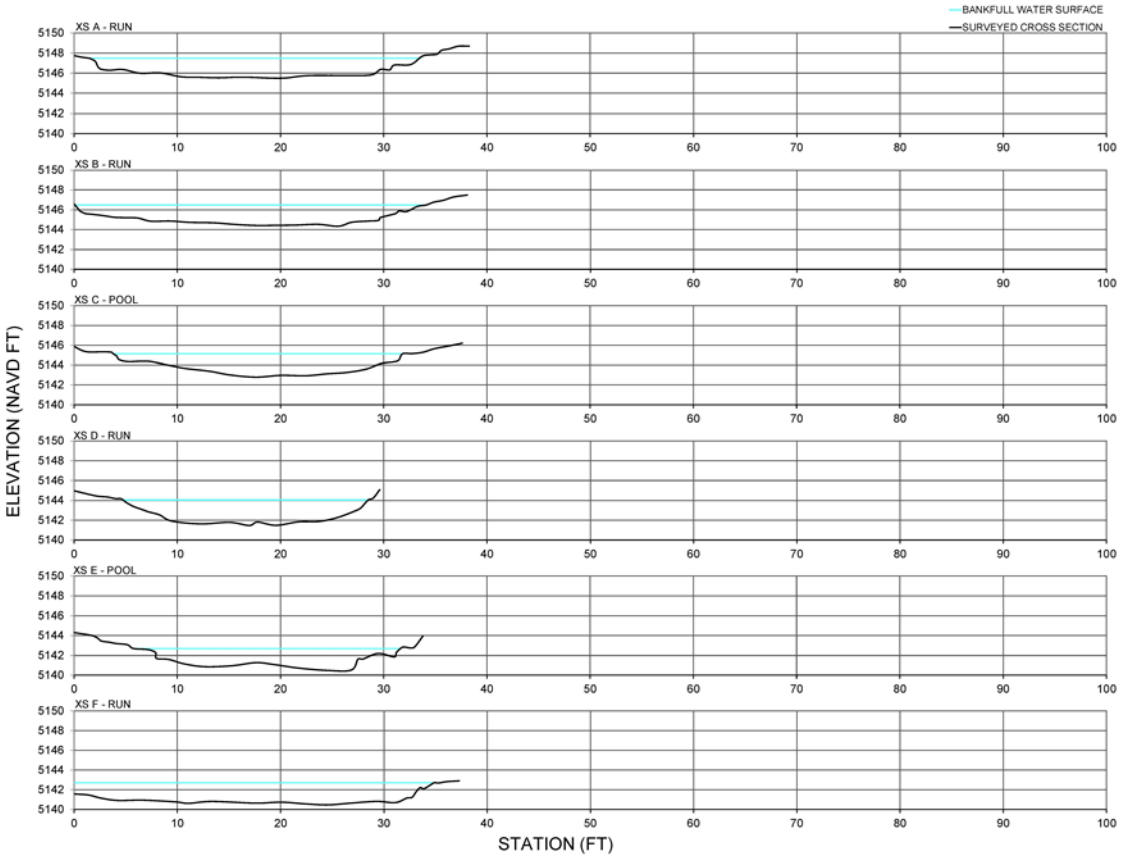

Figure 8-16. Surveyed stream channel cross-sections in Reach SS-15B of the Streamside Tailings Operable Unit, 2018.

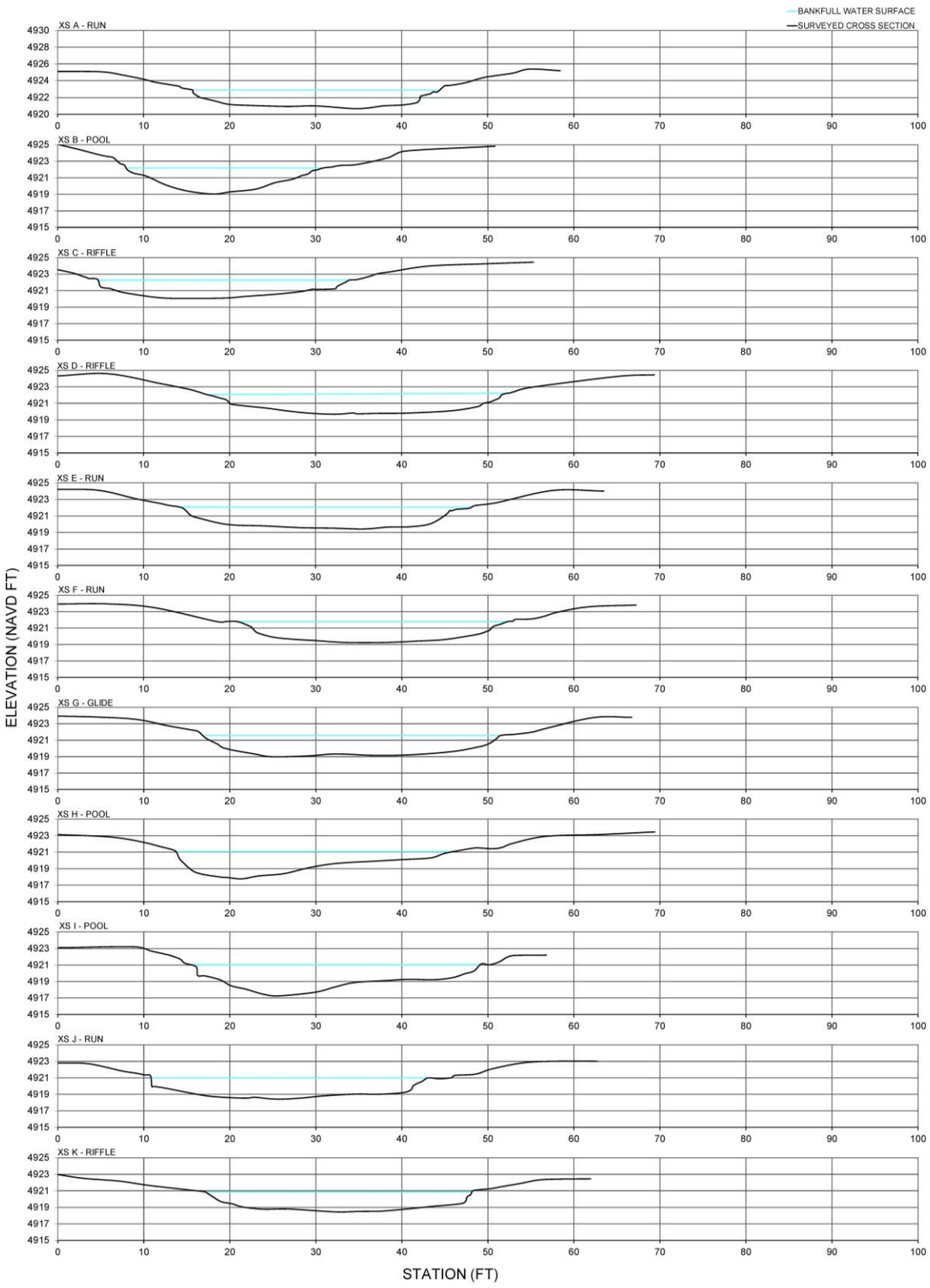

Figure 8-17. Surveyed stream channel cross-sections in Reach SS-17D of the Streamside Tailings Operable Unit, 2018.

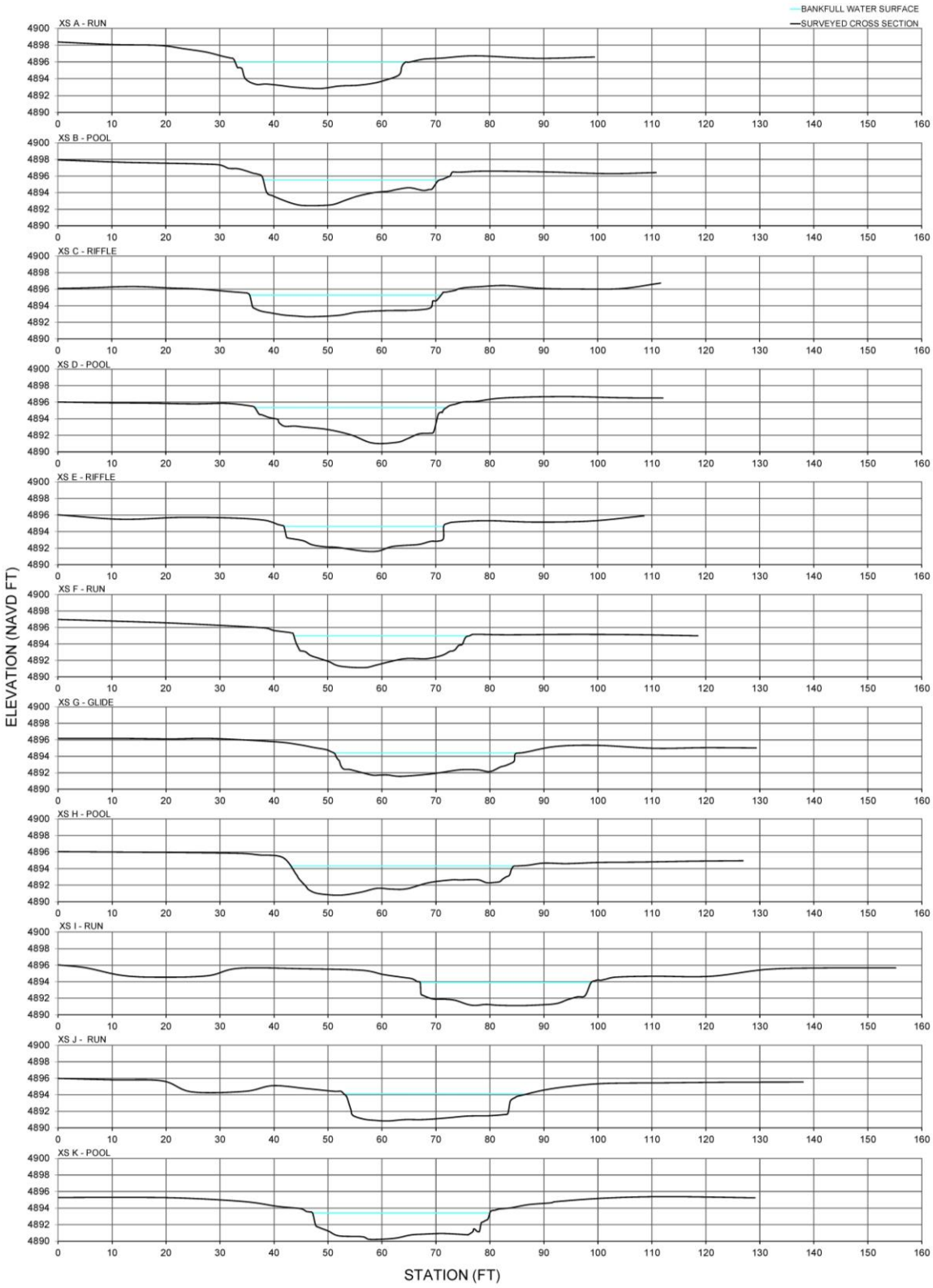

Figure 8-18. Surveyed stream channel cross-sections in Reach SS-19 of the Streamside Tailings Operable Unit, 2018.

Table 8-4. Channel dimensions at Subarea 2 monitoring sites in the Streamside Tailings Operable Unit, 2018.

Monitoring Reach	Cross-section	Bankfull width (feet)	Mean depth (feet)	Width to depth ratio	Mean width to depth ratio	Standard Deviation
SS-11D	A	28.1	1.5	19.3	17.7	3.4
	B	25.6	1.8	13.8		
	C	27.9	1.6	17.3		
	D	27.8	1.4	19.4		
	E	26.5	1.7	15.2		
	F	26.7	1.8	14.9		
	G	22.6	1.9	12.2		
	H	25.3	1.2	21.6		
	I	28.9	1.5	19.4		
	J	23.9	1.3	18.8		
	K	29.4	1.3	23.2		
SS-13	A	26.3	1.2	22.1	17.1	3.8
	B	20.9	1.9	11.0		
	C	27.4	1.5	17.8		
	D	24.6	1.8	13.9		
	E	26.4	1.3	20.6		
	F	26.3	1.4	18.5		
	G	23.0	1.4	16.2		
	H	25.8	1.5	17.0		
	I	28.5	1.6	17.9		
	J	21.9	1.9	11.3		
	K	32.2	1.5	21.6		
SS-14	A	29.0	1.5	19.7	18.5	3.7
	B	26.3	1.2	22.7		
	C	25.0	1.9	13.4		
	D	27.5	1.8	15.3		
	E	27.7	2.2	12.8		
	F	30.6	1.5	21.0		
	G	27.6	1.6	16.9		
	H	35.4	1.5	23.7		
	I	33.7	1.6	20.5		
	J	29.3	1.4	20.6		
	K	30.5	1.8	17.2		

Table 8-5. Channel dimensions at Subarea 3 monitoring sites in the Streamside Tailings Operable Unit, 2018.

Monitoring Reach	Cross-section	Bankfull width (feet)	Mean depth (feet)	Width to depth ratio	Mean width to depth ratio	Standard Deviation
SS-15A-2	A	21.6	1.1	18.9	21.2	4.9
	B	18.8	1.6	11.4		
	C	23.6	1.5	15.6		
	D	32.3	1.2	26.0		
	E	28.8	1.2	24.7		
	F	24.3	1.1	21.3		
	G	31.3	1.3	24.9		
	H	35.4	1.3	27.6		
	I	22.4	1.3	17.4		
	J	28.2	1.2	24.0		
	K	26.4	1.3	20.9		
SS-15B	A	32.2	1.4	23.4	21.4	4.2
	B	34.1	1.3	25.9		
	C	28.1	1.3	20.8		
	D	23.8	1.6	14.7		
	E	25.9	1.2	22.1		
	F	---	---	---		
	G	---	---	---		
	H	---	---	---		
	I	---	---	---		
	J	---	---	---		
	K	---	---	---		

Table 8-6. Channel dimensions at Subarea 4 monitoring sites in the Streamside Tailings Operable Unit, 2018.

Monitoring Reach	Cross-section	Bankfull width (feet)	Mean depth (feet)	Width to depth ratio	Mean width to depth ratio	Standard Deviation
SS-17D	A	28.6	1.2	23.4	20.1	2.7
	B	22.8	1.4	15.9		
	C	29.3	1.4	21.6		
	D	34.9	1.5	23.7		
	E	33.8	1.5	23.1		
	F	31.4	1.6	19.5		
	G	34.5	1.7	20.8		
	H	32.3	1.9	17.3		
	I	33.5	1.9	17.3		
	J	32.3	1.8	18.3		
	K	31.0	1.6	19.7		
SS-19	A	32.8	1.9	16.9	17.3	2.5
	B	32.7	1.8	17.7		
	C	35.4	1.8	20.1		
	D	35.6	2.1	17.0		
	E	29.5	2.1	14.2		
	F	32.6	2.2	15.1		
	G	35.3	1.7	20.7		
	H	41.8	2.0	21.2		
	I	31.5	2.1	15.0		
	J	33.4	2.0	16.9		
	K	32.9	2.2	15.0		

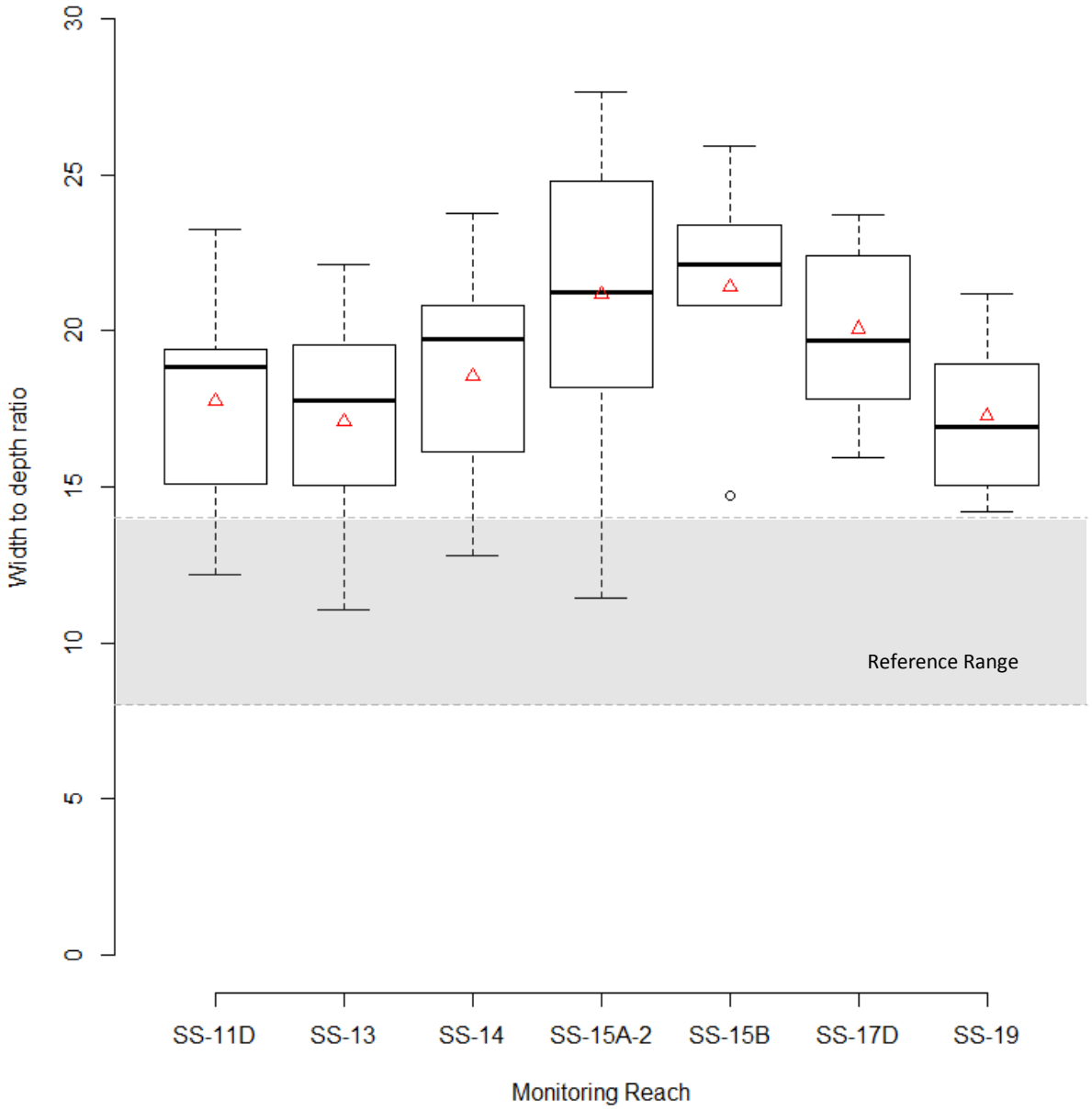

Figure 8-19. Width to depth ratios among cross-sections of monitoring reaches in the Streamside Tailings Operable Unit, 2016. Red triangle represents group mean.

8.3.3 Undercut Banks

Mean undercut streambanks exceeded the reference value range (8-20 percent) at four sites (Sites SS-11D, SS-13, SS-14, and SS-15A-2), was below the reference value range at one site (Site SS-17D), and was within the reference value range in two sites (Sites SS-15B and SS-19) (Table 8-7; Figure 8-20). In the Subarea 2 sites (Sites SS-11D, SS-13, and SS-14), the mean undercut proportion was well above the reference value range at 94 percent, 80 percent, and 66 percent for each site, respectively (Table 8-7). In the Subarea 3 sites, the mean undercut proportion was slightly above the reference value range in Site SS-15A-2 at 33 percent and within the reference range in Site SS-15B at 10 percent (Table 8-7). In the Subarea 4 sites, the mean undercut proportion was below the reference value range in Site SS-17D at 2 percent and within the reference range in Site SS-19 at 20 percent (Table 8-7). Among all sites, the overall mean undercut bank proportion was 44 percent. There was a general decrease in the proportion of undercut banks from the upstream-most to the downstream-most.

Table 8-7. Estimated proportion of undercut banks within monitoring reaches of the Streamside Tailings Operable Unit, 2018.

Monitoring Reach	Survey Locations	Surveyed Length (feet)	Undercut Length (feet)	Mean Proportion Undercut (%)	Standard Deviation
SS-11D	22	660	623	94.4	12.4
SS-13	22	660	530	80.3	24.2
SS-14	22	660	435	65.9	35.0
SS-15A-2	22	660	215	32.6	29.1
SS-15B	22	660	65	9.8	25.0
SS-17D	22	660	15	2.3	5.6
SS-19	22	660	130	19.7	25.3

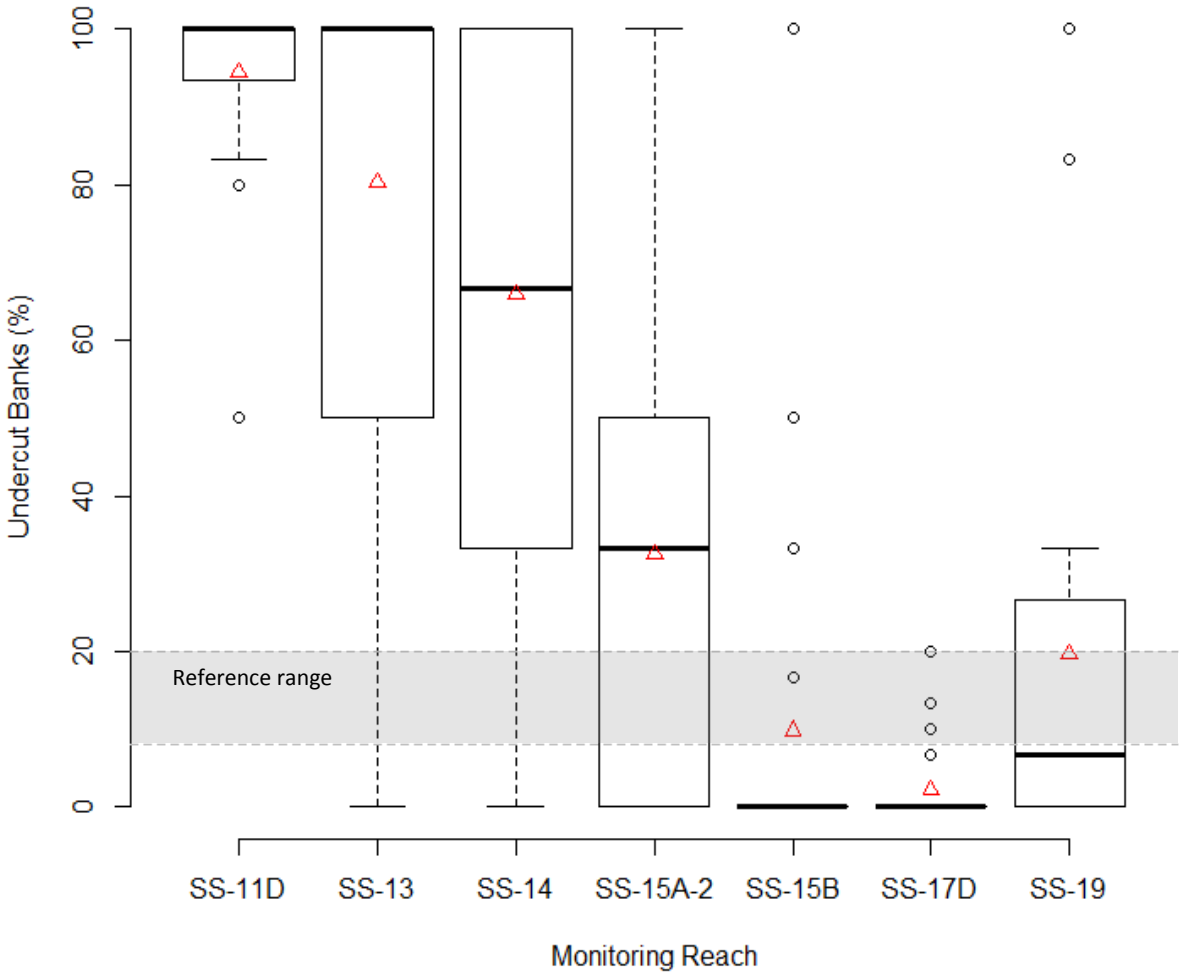

Figure 8-20. Estimates of undercut bank proportions at survey locations (n = 22) within each monitoring reach of the Streamside Tailings Operable Unit, 2018. Red triangles represent group means.

8.3.4 Riparian Cover

Mean overstory cover proportion was low (less than 6 percent) at all sites in 2018 with the exception of Site SS-15B (Table 8-8; Figure 8-21). Site SS-15B had relatively high overstory cover (19 percent), compared to other sites, but overstory cover at Site SS-15B was still well below the reference range for overstory cover (45-65 percent). Mean understory cover proportion was also generally low (0.2-31 percent) at all sites in 2018 (Table 8-8; Figure 8-21). Mean ground cover proportion was generally high (92-99 percent) at all sites in 2018 with the exception of the Subarea 3 sites (Sites SS-15A-2 and SS-15B) (Table 8-8; Figure 8-21). Mean ground cover in the Subarea 3 sites was low (less than 50 percent) (Table 8-8; Figure 8-21). The low groundcover at the Subarea 3 sites was largely due to railroad and roadway grades within the riparian zone where the vegetation cover plots were established.

Table 8-8. Estimated proportion of cover from riparian vegetation within monitoring reaches of the Streamside Tailings Operable Unit, 2018.

Monitoring Reach	Vegetation Cover (%)					
	Ground (<0.5 m)		Understory (0.5-5 m)		Overstory (>5 m)	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
SS-11D	99.1	2.9	23.4	20.7	0.0	0.0
SS-13	98.6	3.5	30.5	18.6	0.0	0.0
SS-14	92.3	13.0	12.3	9.5	0.5	1.5
SS-15A-2	49.5	41.4	0.5	1.5	5.5	17.9
SS-15B	47.7	32.9	20.9	23.4	19.1	21.6
SS-17D	94.1	9.3	7.3	4.8	0.9	3.3
SS-19	93.9	17.6	0.2	0.6	0.0	0.0

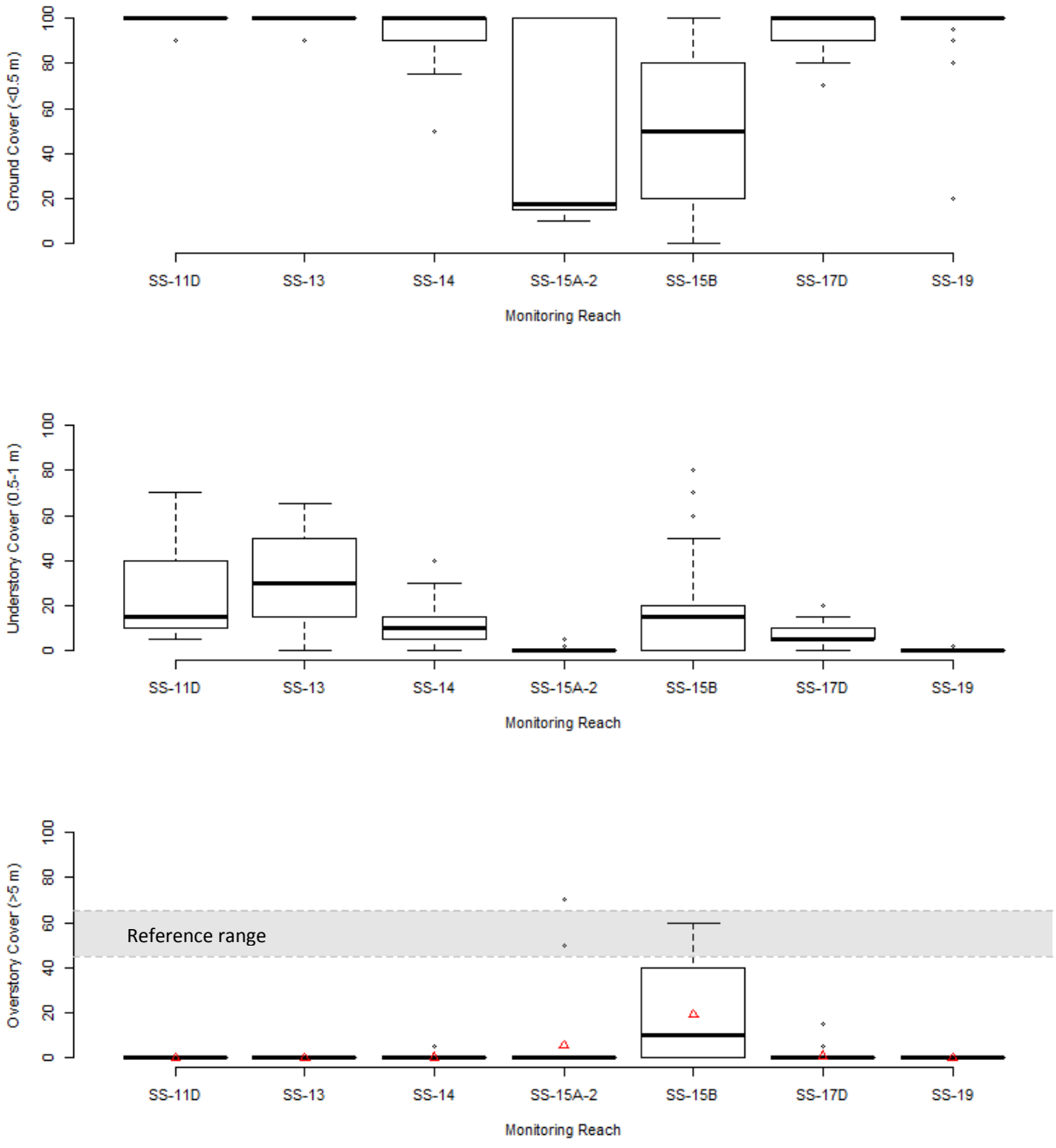

Figure 8-21. Riparian cover in monitoring reaches of the Streamside Tailings Operable Unit, 2018. Red triangle represents group mean.

8.3.5 Channel Cover

Mean channel shading in the monitoring sites in 2018 ranged from 0.1 percent at Site SS-19 to 24.6 percent at Site SS-15B (Table 1-1). Channel shading was within the reference range at all Subarea 2 and Subarea 3 sites (Sites SS-11D, SS-13, SS-14, and SS-15B) with the exception of Site SS-15A-2 (Figure 8-22). Shading in Site SS-15A-2 was below the reference range (Figure 8-22), potentially largely because in that reach, the railroad grade on the south side of the stream was located very close (generally within 5 m) to the stream channel which limited growth of streamside vegetation. Both Subarea 4 sites had low (i.e., less than 5 percent) channel shading (Figure 8-22).

Table 8-9. Stream channel shading in monitoring reaches of the Streamside Tailings Operable Unit, 2018.

Reach	Densiometer dots shaded (%)	
	Cross-section total	
	Mean	Standard Deviation
SS-11D	22.2	12.1
SS-13	20.8	13.9
SS-14	17.2	12.0
SS-15A-2	5.7	5.2
SS-15B	24.6	13.3
SS-17D	4.8	7.5
SS-19	0.1	0.3

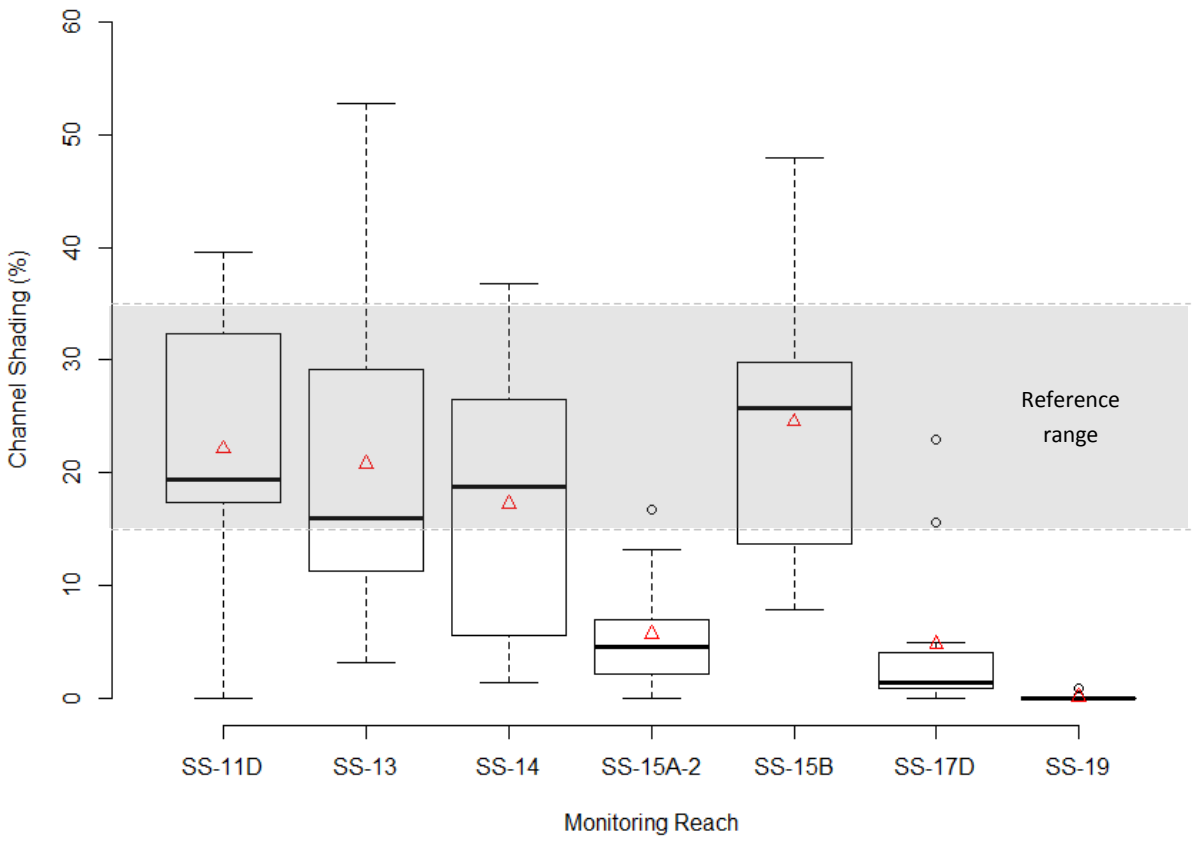

Figure 8-22. Channel shading estimates monitoring reaches of the Streamside Tailings Operable Unit, 2018.

8.3.6 Woody Debris

The mean proportion of streambank cover provided by large wood was 0% at five of the seven sites monitored in 2018 (Table 8-10). Two sites had at least some cover provided by wood: Sites SS-14 and SS-15B (Table 8-10). In those sites, cover provided by wood was low (not more than 3 percent) (Table 8-10). The reference value range for streambank cover from large wood is 15-35%.

Table 8-10. Cover provided by large woody debris along the streambanks in monitoring reaches of the Streamside Tailings Operable Unit, 2018.

Monitoring Reach	Survey Locations	Surveyed Length (feet)	Length Covered by Wood (feet)	Mean Proportion Covered by Wood (%)	Standard Deviation (%)
SS-11D	22	660	0	0	0
SS-13	22	660	0	0	0
SS-14	22	660	10	1.5	7.1
SS-15A-2	22	660	0	0	0
SS-15B	22	660	20	3.0	1.0
SS-17D	22	660	0	0	0
SS-19	22	660	0	0	0

8.4 DISCUSSION

Results of geomorphic monitoring in the SSTOU in 2018 indicate that the reconstructed channel characteristics were within the reference value range for percent pools at two sites (Sites SS-11D and SS-17D), for undercut banks at two sites (Sites SS-15B and SS-19), and at four sites for channel cover (Sites SS-11D, SS-13, SS-14, and SS-15B) (Table 8-11). No sites were within the reference ranges for width to depth ratio, riparian cover, or woody debris (Table 8-11).

Pool availability was within or above the reference range in all Subarea 2 and 4 sites (Sites SS-11D, SS-13, SS-14, SS-17D, and SS-19) monitored in 2018 (Table 8-11). Both Subarea 3 sites were below the reference range. The relative scarcity of pools in the Subarea 3 sites is likely due to channel development constraints due to adjacent railroad grades in Subarea 3.

The width to depth ratio was above the reference range at all sites in 2018 indicating that the channel is relatively wide and shallow (Table 8-11). Shallower stream channels in small streams may increase exposure of fish to predation and also decrease thermal buffering resulting in greater temperature extremes during hot and cold periods [Torgersen et al., 1999]. However, wide, shallow streams are also generally more geomorphically stable because stream power is distributed across a greater surface area and therefore the stream may be less prone to channel incision.

With the exception of one site in Subarea 4 (Site SS-17D), all sites had proportions of undercut banks that were within or above the reference range (Table 8-11).

Riparian overstory cover and woody debris cover were below the reference range at all sites in 2018 (Table 8-11). Low riparian overstory cover reflects the general scarcity of large tree plantings in the riparian area of the SSTOU. Similarly, given the lack of large woody debris incorporated into the remedial design, woody debris was essentially absent at all sites. Over the long-term, large trees may (or may not) become more common on the floodplain through natural recruitment and those trees eventually would then be incorporated into the channel as large woody debris. However, ten years is clearly not a sufficient time period to evaluate natural recruitment of large woody tree species and recruitment of debris from those trees. Despite the low overstory cover, which is generally considered a condition beneficial for trout in streams [Romero et al., 2005], trout including westslope cutthroat trout have thrived in remediated portions of Silver Bow Creek [Naughton, 2013; RESPEC, 2015]. During extensive sampling of fish, habitat and water quality in Silver Bow Creek between 2010 and 2011, overhead riparian cover had little or no association with trout abundance in Silver Bow Creek [Naughton, 2013] perhaps because other important cover features (e.g., the relative availability of deep pools and undercut streambanks) compensate for the scarcity of cover.

Channel cover was within the reference range at all Year-10 monitoring sites and at one Year-5 monitoring site in 2018 (Table 8-11). Growth of streamside willows and shrubs appears to be directly related to the time that has elapsed since revegetation was complete at each site. In the Subarea 2 sites, willows and shrubs have grown vigorously and now provide extensive channel cover despite the lack of overstory cover. The Subarea 4 sites, revegetated well after the Subarea 2 sites, had relatively low channel cover in 2018. Channel cover was low in the Subarea 2 Site SS-15A-2 due to the railroad grades adjacent to the stream channel and the lack of suitable floodplain area for riparian growth. Generally, at all sites willow and shrub growth was most vigorous at the stream margins and appeared to decrease with lateral distance from the streambanks.

The Subarea 2 sites (Sites SS-11D, SS-13, and SS-14) deserve particular attention in this report because each has surpassed the ten-year post remediation period and all have now been monitored during the Year-5 and Year-10 monitoring periods. As of Year-10 (2018), pools, undercut banks and streamside cover were either within or above the reference ranges at these sites; riparian overstory cover and woody debris were essentially absent and below the reference ranges at all sites; and the channel was wide and shallow compared to reference conditions at all sites (Table 8-11). Most metrics had similar results in Year-5 and Year-10 with the exceptions of pool and undercut bank prevalence which increased substantially at all sites (Table 8-11). Streamside cover [Romero et al., 2002], pools [McIntyre and Riemann, 1995], and undercut banks [Butler and Vernon, 1968; Myers and Resh, 2000] are important habitat features for trout and other aquatic organisms.

Table 8-11. Summary of geomorphology monitoring results by reach in the Streamside Tailings Operable Unit, 2018.

Site	Monitoring Year		Monitoring Metric					
	Scheduled	Actual	Percent pools (%)	Width to depth ratio	Undercut banks (%)	Riparian cover; overstory (>5 m) canopy (%)	Channel cover (%)	Woody debris (%)
SS-11D	Year-5	2012	35	16	57	0	28	0
	Year-10	2018	44	18	94	0	22	0
SS-13	Year-5	2014	45	19	34	0	14	0
	Year-10	2018	61	17	80	0	21	0
SS-14	Year-5	2014	32	16	15	5	18	0
	Year-10	2018	69	19	66	0	17	2
SS-15A-2	Year-5	2018	9	21	33	6	6	0
	Year-10	---	---	---	---	---	---	---
SS-15B	Year-5	2018	15	21	10	19	25	3
	Year-10	---	---	---	---	---	---	---
SS-17D	Year-5	2018	45	20	2	1	5	0
	Year-10	---	---	---	---	---	---	---
SS-19	Year-5	2018	63	17	20	0	0	0
	Year-10	---	---	---	---	---	---	---
Reference Range			**20-50**	**8-14**	**8-20**	**45-65**	**15-35**	**15-35**

Below reference range.
Within reference range.
Above reference range.

9.0 CONCLUSIONS

This chapter concludes the 2018 monitoring report and provides an evaluation of monitored conditions in relation to performance standards specified in the SSTOU ROD [DEQ and USEPA, 1995]. Numeric performance standards are specified in the ROD for surface water and groundwater COC concentrations [DEQ and USEPA, 1995], and therefore this chapter focuses on those media. While more stringent standards promulgated since the issuance of the ROD have not yet been formally adopted as performance standards for this operable unit, this monitoring report uses the more stringent of the ROD's Circular WQB-7 [MDHES, 1994] standards or current Circular DEQ-7 [DEQ, 2017] standards as the goal to be attained for purposes of evaluation.

For surface water and groundwater, sample concentrations from this monitoring year are compared to performance goals at each SSTOU surface water monitoring site (Sites SS-07, SS-08, SS-10A, SS-11C, SS-11D, SS-13, SS-14, SS-15A-2, SS-15B, SS-16B, SS-17D, and SS-19; Figure 1-2), groundwater monitoring well in the vicinity of the Mine Waste Relocation Repository (Wells 1GW-1056, LYP-07, MW-2B, MW-2C, and MW-2D; Figure 3-1) and groundwater monitoring floodplain well clusters (Clusters Colorado Tailings, Rocker, Nissler, Silver Bow, Miles Crossing, Fairmont, Crackerville, Stuart, and Frontage Road; Figure 3-1). Results for surface water sites located outside the SSTOU (Sites SS-01, SS-05A, SS-06G, and SS-15G; Figure 1-2) and background groundwater wells (Figure 3-1) are not summarized in this chapter. A summary of performance goal exceedances is provided in Table 9-1 (surface water), Table 9-2 (groundwater in the vicinity of the Mine Waste Relocation Repository), and Table 9-3 (groundwater in the SSTOU floodplain). In addition, this chapter provides a brief comparison of COC concentrations between surface water sites and in groundwater clusters to identify potential remaining COC source areas within the SSTOU.

Major remedial work in the Streamside Tailings Operable Unit was completed by the end of 2015. Cleanup consisted of excavation of tailings (mine waste containing heavy metals) and related impacted soils from the floodplain of Silver Bow Creek, reconstruction of the stream channel and floodplain, and revegetation. Recent additional repair work in Subareas 1 and 2 occurred from 2016 to 2018 to address small deposits of remaining remnant tailings-impacted soils. These data will guide managers in identifying progress or problems in the recovery of the operable unit following implementation of the remedial actions.

Table 9-1. Attainment of surface water performance goals for contaminants of concern at sampling sites in the Streamside Tailings Operable Unit (SSTOU), 2018. Sites within the watershed but outside the SSTOU are not included.

Subarea	Site ID	Site Location	Contaminant of Concern[63]					
			As	Cd	Cu	Pb	Hg	Zn
1	SS-07	Silver Bow Creek below Butte WWTP						
	SS-08	Silver Bow Creek at Rocker						
	SS-10A	Silver Bow Creek above Sand Creek						
2	SS-11C	Silver Bow Creek above Browns Gulch						
	SS-11D	Silver Bow Creek below Browns Gulch						
	SS-13	Silver Bow Creek in Reach L						
	SS-14	Silver Bow Creek at Miles Crossing						
3	SS-15A	Silver Bow Creek above German Gulch						
	SS-15B	Silver Bow Creek below German Gulch						
4	SS-16B	Silver Bow Creek in Reach P near Fairmont						
	SS-17D	Silver Bow Creek below Stewart Street at Opportunity						
	SS-19	Silver Bow Creek at Frontage Road						

Attainment of performance goal during all quarterly monitoring periods.

Failure to attain the performance goal during one to three quarterly monitoring periods.

Failure to attain the performance goal during all quarterly monitoring periods.

Table 9-2. Attainment of groundwater performance goals for contaminants of concern in monitoring wells of the Mine Waste Relocation Repository in the Streamside Tailings Operable Unit, 2018.

Site	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
1GW-1056						
LYP-07						
MW-2B						
MW-2C						
MW-2D						

Attainment of performance goal during both monitoring periods.

Failure to attain the performance goal during one monitoring period.

Failure to attain the performance goal during both monitoring periods.

[63]Abbreviations: As = arsenic, Cd = cadmium, Cu = copper, Pb = lead, Hg = mercury, and Zn = zinc.

Table 9-3. Attainment of groundwater performance goals for contaminants of concern in floodplain monitoring wells located along Silver Bow Creek in the Streamside Tailings Operable Unit, 2018.

Cluster	Arsenic	Cadmium	Copper	Lead	Mercury	Zinc
Colorado Tailings						
Rocker						
Nissler						
Silver Bow						
Miles Crossing						
Fairmont						
Crackerville						
Stuart						
Frontage Road						

Attainment of performance goal.

Failure to attain the performance goal in one monitoring well sample.

Failure to attain the performance goal in both monitoring well samples.

9.1 SUBAREA 1

Major remediation in Subarea 1 was completed between 1999-2003, however some additional remedial actions were in progress in Subarea 1 and 2 recently to address some of the remaining COC sources in the floodplain.

Surface water sites in Subarea 1 include Sites SS-07, SS-08, and SS-10A (Figure 1-2). In 2018, COC concentrations were similar to those measured in 2017, although this approached the higher end of the range of concentrations from prior monitoring periods. In general, surface water total recoverable arsenic and copper concentrations showed a slight increase, particularly in Q1 and Q2 and below the recent repair work. Lead and zinc concentrations generally decreased from 2017 concentrations, throughout Subarea 1, with the exception of the Q4 event.

Groundwater monitoring clusters in Subarea 1 include the Colorado Tailings, Rocker, and Nissler clusters (Figure 3-1). In certain Subarea 1 groundwater monitoring wells, zinc concentrations have consistently exceeded the performance goal (by as much as five times). Arsenic and cadmium concentrations have also occasionally exceeded the performance goals in Subarea 1 monitoring wells. Copper concentrations have not exceeded the performance goal during the period of record in these wells but have regularly been elevated in monitoring wells compared to the background wells.

9.1.1 Surface Water

9.1.1.1 Silver Bow Creek below Butte WWTP (SS-07)

Site SS-07 is located at the upstream end of Subarea 1, immediately downstream from the Butte WWTP outfall. Site SS-07 is the upstream-most site in the SSTOU. Remediation was completed at Site SS-07 in 2000. In addition to representing conditions at the upstream-most portion of the SSTOU, Site SS-07 provides an assessment of the influence of the WWTP on water chemistry and biological integrity in Silver Bow Creek. Site SS-07 is paired with Site SS-06G, located immediately upstream from the WWTP, with Site SS-06G providing the "control" site and Site SS-07 providing the "impact" site for the WWTP outfall. Site SS-07 is co-located with USGS gage 12323250.

In 2018, arsenic and copper exceeded the performance goals at Site SS-07 in Q2. During most quarters in 2018, most COC concentrations at Site SS-07 were similar to (and, generally slightly less than) concentrations at Site SS-06G. However, zinc was an exception. During all quarters zinc concentrations at Site SS-07 were higher than at Site SS-06G. These results suggest that the discharge of the Butte WWTP in 2018 tended to dilute concentrations in Silver Bow Creek for each metal COC except zinc

9.1.1.2 Silver Bow Creek at Rocker (SS-08)

Site SS-08 is in Subarea 1 near the town of Rocker, approximately two miles downstream from Site SS-07. Site SS-08 was remediated in 2002. No tributaries enter Silver Bow Creek between Sites SS-07 and SS-08. Therefore, any differences in streamflow (not due to measurement error) between Sites SS-07 and SS-08 would likely be attributed to exchange between groundwater and surface water in this reach.

In 2018, arsenic, copper, and mercury exceeded the performance goals at Site SS-08 during at least one quarter. Exceedances of the performance goals occurred for arsenic in Q2, copper in Q1, Q2, and Q4, and mercury in Q2, Q3, and Q4. Concentrations of all COCs increased between Sites SS-07 and SS-08, and this was observed in each quarter of 2018. These results suggest that loading or mobilization of those contaminants occurs between those sites. Monitoring in 2019 and beyond will elucidate the effectiveness of recent remedial actions between these sites (which occurred in 2016) at reducing COC loading.

9.1.1.3 Silver Bow Creek above Sand Creek (SS-10A)

Site SS-10A is located at the downstream end of Subarea 1, immediately upstream from the Sand Creek confluence, approximately 3 miles downstream from Site SS-08. Remediation at Site SS-10A was completed in 2003. Site SS-10A represents conditions at the downstream end of Subarea 1.

In 2018, performance goals were exceeded at Site SS-10A for arsenic in Q1, for copper in all quarters, and for mercury in Q2, Q3, and Q4. Between Sites SS-08 and SS-10A an increase was observed in cadmium, copper, and zinc in all monitoring events.

9.1.2 Groundwater

9.1.2.1 Colorado Tailings Cluster

The Colorado Tailings cluster is located approximately one mile downstream from the upstream end of Subarea 1 between surface water Sites SS-07 and SS-08. There are no surface water inputs in this reach (between Sites SS-07 and SS-08) and streamflows are similar [RESPEC, 2018a] suggesting that groundwater in this reach does contribute appreciably to surface water streamflow.

In 2018, no COCs exceeded performance goals in groundwater samples from the Colorado Tailings cluster. Zinc concentration in one monitoring well was elevated compared to the background well

9.1.2.2 Rocker Cluster

The Rocker cluster is located approximately 0.5 miles downstream from surface water Site SS-08, and approximately 2 miles upstream from surface water Site SS-10A. There are no surface water inputs in this reach (between Sites SS-08 and SS-10A) and streamflows are similar [RESPEC, 2018a] suggesting that groundwater in this reach does contribute appreciably to surface water streamflow.

In 2018, one of the two monitoring wells in the Rocker cluster exceeded the performance goals for arsenic and zinc. Cadmium, copper and zinc concentrations were elevated in both monitoring wells compared to the background well.

9.1.2.3 Nissler Cluster

The Nissler cluster is located approximately 1.5 miles downstream from the Rocker cluster and is also located between surface water Sites SS-08 and SS-10A. Despite historically elevated COC concentrations in this portion of the floodplain of Silver Bow Creek between Sites SS-08 and SS-10A, groundwater may not be the primary cause of increasing surface water COC concentrations between these sites given that it appears little groundwater enters Silver Bow Creek in this portion of Subarea 1.

In 2018, cadmium (in one monitoring well), lead (in one monitoring well), and zinc (in both monitoring wells) exceeded performance goals in the Nissler cluster. Cadmium, copper, and zinc concentrations in both monitoring wells were elevated relative to the background concentrations

and lead concentration was elevated in one monitoring well. It should be noted that elevated arsenic concentrations have consistently been observed in the Nissler cluster background well, where the MDHES human health standard was exceed in 2018.

9.2 SUBAREA 2

Subarea 2 includes Sites SS-11C, SS-11D, SS-13, and SS-14.. Remediation in Subarea 1 was completed between 2004-2010. In 2018, surface water COC concentrations tended to remain relatively consistent among Subarea 2 sites, although with variation. Perforance goals were exceeded for arsenic at all of the Subarea 2 surface water sites in Q1 and Q2; copper in all quarters for 2 sites and all quarters except Q3 for the other 2 sites; mercury at all sites in Q1 snd 2 sites in both Q2 and Q3. Some additional remedial actions occurred in Subarea 2 from 2016 through 2018 to address some remaining COC sources in the floodplain.

Groundwater monitoring clusters in Subarea 2 include the Silver Bow and Miles Crossing clusters (Figure 3-1). Arsenic concentrations exceeded performance standards in one of the monitoring wells, as well as one of the background wells in 2018. Cadmium concentrations exceeded the performance goal in 3 of 4 monitoring wells and zinc exceeded the goal in 2 of 4 wells in the Subarea 2 floodplain. Concentrations in one or more monitoring wells were considerably higher than in the paired background wells for cadmium and zinc concentrations.

9.2.1 Surface Water

9.2.1.1 Silver Bow Creek above Browns Gulch (SS-11C)

Site SS-11C is in Subarea 2, immediately upstream from the Browns Gulch confluence, approximately 2.5 miles downstream from Site SS-10A. Site SS-11C was remediated in 2006. Site SS-11C provides an assessment of the influence of Browns Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-11C is paired with Site SS-11D, which is located immediately downstream from the Browns Gulch confluence. Site SS-11C provides the "control" site, and Site SS-11D provides the "impact" site for the Browns Gulch input.

Between Sites SS-10A and SS-11C, some COC concentrations increased during some quarters but during other quarters concentrations were similar or lower at Site SS-11C. The only COC that exhibited consistent behavior, where concentrations decreased between Sites SS-10A and SS-11C for all quarters. No other water quality parameter showed a consistent increase of decrease between sites throughout 2018, however some general tendencies were observed. Arsenic and zinc tended to increase between Sites SS-10A and SS-11C (3 out of 4 quarters); whereas, cadmium, copper, and mercury tended to decrease (3 out of 4 quarters).

9.2.1.2 Silver Bow Creek below Browns Gulch (SS-11D)

Site SS-11D is in Subarea 2, immediately downstream from the Browns Gulch confluence, approximately 200 m downstream from Site SS-11C. Site SS-11D was remediated in 2007. Site SS-11D provides an assessment of the influence of Browns Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-11D is paired with site SS-11C (which is located immediately upstream from the Browns Gulch confluence), with SS-11C providing the "control" site and SS-11D providing the "impact" site for the Browns Gulch input.

Again, a consistent behavior between these two sites was not observed amongst all COCs during 2018. However, an increase in cadmium and zinc concentrations between sites SS-11C and SS-11D for all quarters and in mercury in 3 out of 4 quarters. In general, copper (3 out of 4 quarters) and zinc concentrations (all quarters) were lower at SS-11D than SS-11C in 2018. This suggests that Browns Gulch flows may contribute of mobilize some COCs while reducing mainstem concentrations of other COCs slightly through dilution.

9.2.1.3 Silver Bow Creek in Reach L (SS-13)

Site SS-13 is in Subarea 2, downstream from the Browns Gulch confluence, approximately 0.75 miles downstream from Site SS-11D. Site SS-13 was remediated in 2007, but this site was not sampled until 2013.

Generally, COC concentrations were similar in Sites SS-11D and SS-13, although some COCs showed increasing or decreasing tendencies between these sites. Cadmium and lead concentrations were both consistently slightly lower at Site SS-13 compared to Site SS-11D (all quarters) and mercury concentrations were lower at Site SS-13 in 3 out of 4 quarters. Slightly higher downstream concentration of copper and zinc were observed at Site SS-13 in 3 out of 4 quarters (all except Q4).

9.2.1.4 Silver Bow Creek at Miles Crossing (SS-14)

Site SS-14 is located near the downstream end of Subarea 2. Remediation was completed at Site SS-14 in 2008. Site SS-14 is in the Miles Crossing area approximately 1 mile downstream from Site SS-13.

Generally, COC concentrations were similar between Sites SS-13 and SS-14 during all quarters although lead showed a slight decrease in COC concentrations at Site SS-14 for all quarters and cadmium and mercury concentrations were lower at Site SS-14 in all quarters except Q1. Zinc and copper concentrations were both increased from Site SS-13 to Site SS-14 in Q1 and Q2, then decreased between these two sites on Q3 and Q4.

9.2.2 Groundwater

9.2.3 Silver Bow Cluster

The Silver Bow cluster is located at the boundary between Subarea 1 and Subarea 2, close to the surface water Site SS-10A. Surface water Site SS-10A is located approximately 3 miles upstream from Site SS-11C. Between Sites SS-10A and SS-11C, streamflow increases by 10 percent (2.9 ft^3/s) on average [RESPEC, 2018a]. There are multiple ponds adjacent to Silver Bow Creek in this reach with surface water discharge into Silver Bow Creek. These inputs, in addition to other potential groundwater sources, account for the net increase in streamflow between these sites

In 2018, the performance goals were exceeded in one of two monitoring wells for arsenic and cadmium in the Silver Bow cluster.

9.2.3.1 Miles Crossing Cluster

The Miles Crossing cluster is located at the boundary between Subarea 2 and Subarea 3, close to the surface water Site SS-14. Surface water Site SS-15A is located approximately 5 miles downstream from Site SS-14. There are no surface water inputs in this reach (between Sites SS-14 and SS-15A) and streamflows are similar [RESPEC, 2018a] suggesting that groundwater in this reach does contribute appreciably to surface water streamflow.

In 2018, cadmium and zinc exceeded the performance goal in both monitoring wells located in the Miles Crossing cluster and concentrations were several orders of magnitude above the concentrations in the background well. The background well in the Miles Crossing Cluster exceeded the arsenic groundwater standard in 2018.

9.3 SUBAREA 3

Subarea 3 includes Sites SS-15A and SS-15B. Remediation in Subarea 3 occurred from 2011 to 2015. Prior to 2014 monitoring, surface water COC concentrations tended to be the highest in the SSTOU at these Subarea 3 sites (particularly Site SS-15A). However, COC concentrations at these sites have generally been similar to concentrations in Subarea 2 since 2014. These results indicate that the recent remedial actions in Subarea 3 upstream from these sites were largely successful at reducing surface water COC concentrations and variability.

9.3.1 Surface Water

9.3.1.1 Silver Bow Creek above German Gulch (SS-15A-2)

Site SS-15A is in Subarea 3, immediately upstream from the German Gulch confluence and approximately 3.5 miles downstream from Site SS-14. Remediation was completed in Subarea 3 upstream from Site SS-15A in 2014. However, the stream channel and floodplain in the immediate vicinity of Site SS-15A (up to 100 m upstream) was not actively remediated. The remediation plan in this vicinity is for natural attenuation of streamside tailings. No active remediation occurred because the stream passes through a very narrow canyon (approximately 30 m) and the streambed is comprised primarily of bedrock indicating that the volume of tailings is relatively small.

Site SS-15A, and the nearby Site SS-15A-2 (located immediately above the zone of natural attenuation treatment), provides an assessment of the influence of German Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-15A-2, sampled since 2017, is paired with Site SS-15B which is located immediately downstream from the German Gulch confluence. Site SS-15A-2 provides the "control" site and Site SS-15B provides the "impact" site for the German Gulch input. The COC concentrations were similar at Site SS-14 and Site SS-15A-2 during some quarters, but during other quarters concentrations were highly variable between the sites in 2018.

9.3.1.2 Silver Bow Creek below German Gulch (SS-15B)

Site SS-15B is in Subarea 3, immediately downstream from the German Gulch confluence and approximately 200 m downstream from Site SS-15A. Site SS-15B was located at the downstream edge of the non-remediated portion of Subarea 3. Downstream from Site SS-15B, remediation was completed in 2015 but upstream for approximately 300 m the stream channel and floodplain were not remediated due to low tailings volume in this reach and poor access. The remediation plan for this short reach (about 300 m from Site SS-15B to 100 m upstream from Site SS-15A) is for natural attenuation.

Site SS-15B provides an assessment of the influence of German Gulch on water chemistry and biological integrity in Silver Bow Creek. Site SS-15B is paired with Site SS-15A which is located immediately upstream from the German Gulch confluence. Site SS-15A provides the "control" site and Site SS-15B provides the "impact" site for the German Gulch input. Concentrations of all COCs observed at Site SS-15B were consistently lower than those observed at Site SS-15A in 2018 during all quarters. These results are consistent with past results and presumably reflect dilution from the relatively clean German Gulch tributary.

9.3.2 Groundwater

There were no groundwater monitoring wells located in Subarea 3 in 2018. The Miles Crossing cluster is in Subarea 2 near the boundary with Subarea 3 and the Fairmont cluster is in Subarea 4 near the boundary with Subarea 3.

9.4 SUBAREA 4

Subarea 4 includes Sites SS-16B, SS-17D, and SS-19. Remediation in this subarea occurred from 2004-2014. Generally, COC concentrations have continued a steady, modest decline at the Subarea 4 sites during the last 6 years. Remediation was in progress in Subarea 3 upstream from Subarea 4 through 2015. A temporary sedimentation pond, used to sequester metals and sediments entrained from removal activities upstream, was removed in 2014. That pond had previously provided a buffer to water quality in Subarea 4.

Groundwater monitoring clusters in Subarea 4 include the Fairmont, Crackerville, Stuart, and Frontage Road clusters (Figure 3-1). Arsenic and copper concentrations exceeded performance standards in one of the monitoring wells, and arsenic exceeded the MDPES human health standard in one of the background wells as well in 2018. Cadmium concentrations exceeded the performance goal in 3 of the monitoring wells and zinc exceeded the goal in 2 of the wells in the Subarea 4 floodplain.

9.4.1 Surface Water

9.4.1.1 Silver Bow Creek in Reach P near Fairmont (SS-16B)

Site SS-16B is located at the upstream end of Subarea 4. As of 2013, remediation was completed at Site SS-16B. Site SS-16B is located approximately 2 miles downstream from Site SS-15B. A sedimentation pond was removed, and a fish movement barrier was installed, between Sites SS-15B and SS-16B in 2014. Site SS-16B was first sampled in this monitoring program in 2013.

Generally, COC concentrations at Site SS-16B were similar to Site SS-15B in 2018 for arsenic, cadmium, and copper. Lead, mercury, and zinc concentrations were slightly higher at Site SS-16B than at Site SS-15B for all quarters in 2018.

9.4.1.2 Silver Bow Creek below Stewart Street at Opportunity (SS-17D)

Site SS-17D is in Subarea 4, approximately 6.9 miles downstream from Site SS-16B and approximately 1.5 miles upstream from the point where Silver Bow Creek discharges into the Warm Springs Pond system. Site SS-17D is co-located with USGS gage 12323600. Floodplain remediation was complete at Site SS-17D in 2013.

Generally, COC concentrations increased between Site SS-16B and Site SS-17D in 2018. Concentrations for all COCs except for arsenic were slightly higher at Site SS-17D during all quarters, Arsenic concentrations at Site SS-17B were slightly higher than Site SS-16B during Q1 and Q2 and the same during Q3 and Q4.

9.4.1.3 Silver Bow Creek at Frontage Road (SS-19)

Site SS-19 is in Subarea 4, approximately 1.2 miles downstream from Site SS-17D, and 0.2 miles upstream from the point where Silver Bow Creek discharges into the Warm Springs Pond system. Site SS-19 is the downstream-most site in the SSTOU monitoring network and provides an assessment of water quality in Silver Bow Creek at the downstream end of Subarea 4. Sampling at Site SS-19 was initiated in 2014.

Generally, COC concentrations were similar between Site SS-17D and Site SS-19 in 2018. Mercury concentrations increased slightly between these two sites during all quarters, but no other COC concentrations showed a consistent increase of decrease between sites throughout 2018.

9.4.2 Groundwater

9.4.2.1 Fairmont Cluster

The Fairmont cluster is located at the upstream end of Subarea 4, between surface water Sites SS-15B and SS-16B. Surface water Site SS-15B is located approximately 2 miles upstream from Site SS-16B. Sampling at Site SS-16B began in 2013. There are no surface water inputs in this reach (between Sites SS-05B and SS-16B) and streamflows are similar [RESPEC, 2018a] suggesting that groundwater in this reach does contribute appreciably to surface water streamflow.

In 2018, all COC concentrations in Fairmont cluster monitoring wells were below the performance goals.

9.4.2.2 Crackerville Cluster

The Crackerville cluster is located between surface water Sites SS-16B and SS-17D, approximately 0.5 miles downstream from Site SS-16B. There are no surface water inputs in this reach (between Sites SS-16B and SS-17D) and streamflows are similar [RESPEC, 2018a] suggesting that groundwater in this reach does contribute appreciably to surface water streamflow.

In 2018, one monitoring well in the Crackerville cluster had both arsenic and cadmium concentrations which exceeded the performance goal.

9.4.2.3 Stuart Cluster

The Stuart cluster is located between surface water Sites SS-16B and SS-17D, approximately 1 mile upstream from Site SS-17D. There is no evidence that streamflows differ between those sites [RESPEC, 2018a].

In 2018, both monitoring wells had cadmium and zinc concentrations which exceeded the performance goal and one of the monitoring wells (GW-ST-WS) also had a copper concentration which exceeded the performance goal.

9.4.2.4 Frontage Road Cluster

The Frontage Road cluster is located between surface water Sites SS-17D and SS-19 (very close to Site SS-19), at the downstream end of Subarea 4. Sampling began at Site SS-19 in 2014. There are no surface water inputs in this reach (between Sites SS-17D and SS-19) and streamflows are similar [RESPEC, 2018a] suggesting that groundwater in this reach does contribute appreciably to surface water streamflow.

In 2018, no monitoring wells located in the Frontage Road cluster had a COC concentration exceeding the performance goal.

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APPENDIX A

Quality Assurance and Quality Control Review and Summary: Surface Water, Instream Sediment, Groundwater, and Vadose Zone Water

A.1 INTRODUCTION

Specific quality assurance and quality control (QA/QC) requirements for field measurements, sample collection, laboratory analysis, and the reporting of resulting data were established by protocols contained in the quality assurance project plan (QAPP), a component of the approved sampling and analysis plan (SAP) for the Silver Bow Creek Streamside Tailings Operable Unit (SSTOU). The following quality control checklist is a component of the Montana Department of Environmental Quality QA/QC protocols and is an initial step in the review and validation of water chemistry and related data generated under the SSTOU environmental monitoring program. This checklist provides an outline for reviewing and assessing numerous factors potentially affecting data quality and assists in identifying data that may be invalid or require additional documentation.

A.2 QUALITY CONTROL

Work order receipt checklists were completed by Energy Labs for each batch of quarterly samples delivered. These checklists are provided in Appendix B. Specific quality control issues identified included the following:

- First Quarter (Q1): Minor discrepancies between chain of custody labels and sample bottle labels. Sediment samples were not delivered on ice and were received by the laboratory at 6-10 C.
- Second Quarter (Q2): Sediment samples were not delivered on ice and were received by the laboratory at 18-20 C.
- Third Quarter (Q3): Sediment samples were not delivered on ice and were received by the laboratory at 7-8 C.
- Fourth Quarter (Q4): Sediment samples were not delivered on ice and were received by the laboratory at 14-15 C.

A.3 SUMMARY OF QUALITY CONTROL AND ANALYSIS RESULTS

Summarized in this appendix are quality control measures performed on field and laboratory data generated from surface water, instream sediment, groundwater, and vadose zone water samples collected from the SSTOU monitoring events in 2018. Assessed under the DEQ standard quality assurance and quality control protocols are data quality objectives (DQOs), including categories for: “representativeness”, “comparability”, and “completeness”. Also assessed under the DEQ standard quality assurance and quality control protocols are data quality indicators (DQIs) including categories for: ”sensitivity”, “lab precision”, “overall precision”, and “bias and accuracy”.

Overall, DQOs and DQIs were generally met at all monitoring sites in the SSTOU during 2018. Surface water samples were collected and analyzed for total suspended sediment, nutrients, metals (dissolved and total recoverable), and common ions at sample sites on four occasions (quarterly) in 2018. Instream sediment samples were collected and analyzed for metals (total) at the sites during each quarter of 2018 and two additional sites. Groundwater and vadose zone water samples were collected from monitoring wells and lysimeters during Q2 and Q3 and these samples were analyzed for dissolved metals and common ion concentrations.

A.3.1 Representativeness

All surface water, instream sediment, vadose zone water, and groundwater monitoring sites in the SSTOU sampled in 2018 met stated objectives for "spatial representativeness". That is, all monitoring sites were sampled at the established locations specified in the project SAP.

All surface water and instream sediment monitoring was conducted quarterly during 2018 as specified in the project SAP. Q1 monitoring occurred during base streamflow conditions prior to the onset of spring runoff. Q2 monitoring was conducted near the peak annual streamflow the during spring snowmelt runoff period. Biological monitoring was conducted in conjunction with Q3 surface water and instream sediment sampling, during low streamflows near the seasonal minimum within the specified index period for sampling the biota. Q4 monitoring occurred during base streamflow conditions as late in the season as possible, prior to winter ice up. Sampling activities during 2018 occurred during the last month of each respective quarter, and all data met specified SSTOU criteria for temporal representativeness.

A.3.2 Comparability

Comparability is the applicability of project data to the remedial performance goals specified in the SAP for the various environmental media monitored under the project. The performance goal for surface water quality is for all contaminants of concern (COC) to meet the most restrictive of the state water quality standards for surface water. For instream sediment, the goal is for COC concentrations to meet the "threshold effect concentration" (TEC). Performance goals for groundwater call for COC concentrations to meet state water quality standards, federal maximum contaminant levels (MCLs), and federal non-zero MCL goals through natural attenuation. All of these standards and levels apply to human health considerations. In addition, these goals require that no groundwater discharges occur that would prevent attainment of ambient Circular DEQ-7 surface water standards or instream sediment remediation goals in the SSTOU. All data acquired by the 2018 monitoring are applicable to assessing attainment of project performance goals.

A.3.3 Completeness

An overall data completeness goal of 85 percent was specified for the SSTOU project and an evaluation table for data completeness is not required if the goal is met or exceeded. Data completeness for surface water and instream sediment samples from the SSTOU monitoring sites

was near 100 percent, with all chemical and physical parameters collected and analyzed during each of the four quarterly monitoring events. Water samples were collected and analyzed from all SAP-specified groundwater monitoring wells and vadose zone lysimeters during the Q2 and Q3, although the available volume of water was often limited for vadose zone water samples.

A.3.4 Sensitivity

The method detection limit (MDL) established by Energy Laboratories through laboratory blank analyses is an expression of sensitivity. The MDL documented in QA/QC summary reports that accompany each set of laboratory analytical reports was less than the project-required reporting limit (RL), and was often below detection, for all analytical methods pertaining to Silver Bow Creek SSTOU monitoring (Appendix B).

Sensitivity of field methods for surface water samples was determined through deionized water field blank analyses. Results for all metals, common ions and suspended sediment parameters in field blanks were below the analytical reporting limits for 98 percent (469 of 480) of the surface water field blank analytes. Associated results which are less than ten times the RL concentrations have been qualified in the project database. Analytes detected in surface water field blanks included the following:

- Barium was detected in 12.5 percent (2 of 8) of the dissolved field blank samples with concentrations of 0.004 mg/L and 0.008 mg/L (RL = 0.003 mg/L).
- Hardness exceeded the RL (1 mg/L as $CaCO_3$) in 25 percent (2 of 8) field blank samples. Hardness was 2 mg/L in each of those samples.
- Dissolved zinc was detected in 88 percent (7 of 8) of the field blank samples; detectable dissolved zinc concentrations in field blanks ranged from 0.009-0.030 mg/L (RL = 0.008 mg/L).

Sensitivity of field methods for groundwater samples was also determined through deionized water field blank analyses. Results for all metals and common ion parameters in field blanks were below the analytical reporting limits for 100 percent (120 of 120) of the surface water field blank analytes. Associated results which are less than ten times the RL concentrations have been qualified in the project database. No analytes were detected at concentrations above the analytical reporting limits in any groundwater field blanks in 2018.

A.3.5 Precision

A.3.5.1 Laboratory

Laboratory precision was assessed by the relative percent difference (RPD) metric comparing laboratory samples with duplicates. RPD comparisons were made for all analytes measured in this program. Established criteria allow a maximum of 20 percent RPD for water sample results which are at least five times greater than the RL, and 35 percent RPD for sediment samples which

are at least five times greater than the RL. Results of laboratory quality control procedures are available in Appendix B.

A.3.5.2 Overall

The overall precision of surface water, instream sediment, and groundwater sample analyses in 2018 from the SSTOU was assessed with RPD comparisons between samples and paired field duplicates. Established criteria allow a maximum of 25 percent RPD for water sample results at least 5 times the RL, and 40 percent RPD for sediment samples at least 5 times the RL. All associated data which exceeds these criteria have been J-flagged in the project database.

Two surface water sample and duplicate pairs were collected in each quarterly sampling event and these were analyzed for dissolved and total recoverable metals, nutrients, and common ions. Results of RPD comparisons for all metal, common ion and suspended sediment parameters in the field duplicate and field sample pairs were within the established criteria in 99.8 percent (479 of 480) of the sample and duplicate pairs. Field duplicate and field sample pairs with RPD exceeding 25 percent included:

- dissolved cadmium in the sample pair collected at Site SS-14 on March 21, 2018 (RPD = 31 percent).

Groundwater and vadose zone water sample and duplicate pairs were collected during both sampling events and were analyzed for dissolved metals and common ions. Results of RPD comparisons for all metals and common ion parameters in the field duplicate and field sample pairs were within the established criteria in 96 percent (115 of 120) of the sample and duplicate pairs. Field duplicate and field sample pairs with RPD exceeding 25 percent included:

- total alkalinity in Well GW-FR-BG on October 4, 2018 (RPD = 27.5 percent),
- total bicarbonate in Well GW-FR-BG on October 4, 2018 (RPD = 28.6 percent),
- dissolved aluminum in Well GW-FR-BG on October 4, 2018 (RPD >200 percent),
- dissolved iron in Well GW-FR-BG on October 4, 2018 (RPD = 183.6 percent),
- and dissolved manganese in Well GW-FR-BG on October 4, 2018 (RPD = 93.1 percent).

Two instream sediment sample and duplicate pairs were collected in each quarterly sampling event and these were analyzed for total metals in three size fractions. Among all analytes in all size fractions, 528 field sample and field duplicate results were compared and 35 (93 percent) were within the established criteria. Table A-1 presents the sediment field duplicate and field sample pairs which had RPD greater than 40 percent.

Table A-1. Field sample and field duplicate pairs with relative percent differences greater than 40 percent in the Streamside Tailings Operable Unit, 2018.

Station ID	Date	Characteristic Name	Size Fraction	Concentration (mg/kg)		Relative Percent Difference (%)
				Sample	Duplicate	
SS-08	22-Mar-18	Copper	1-2 mm	173	95	58.2
SS-08	22-Mar-18	Lead	1-2 mm	41	21	64.5
SS-08	22-Mar-18	Mercury	1-2 mm	0.93	0.2	129.2
SS-16B	21-Mar-18	Arsenic	0.065-1 mm	16	27	51.2
SS-16B	21-Mar-18	Chromium	0.065-1 mm	18	34	61.5
SS-16B	21-Mar-18	Iron	0.065-1 mm	29600	60900	69.2
SS-16B	21-Mar-18	Lead	0.065-1 mm	37	102	93.5
SS-16B	21-Mar-18	Manganese	0.065-1 mm	626	980	44.1
SS-16B	21-Mar-18	Vanadium	0.065-1 mm	77	184	82.0
SS-16B	21-Mar-18	Cadmium	1-2 mm	1.1	0.4	93.3
SS-16B	21-Mar-18	Zinc	1-2 mm	339	199	52.0
SS-06G	7-Jun-18	Chromium	<0.065 mm	127	191	40.3
SS-06G	7-Jun-18	Manganese	<0.065 mm	6280	12000	62.6
SS-06G	7-Jun-18	Nickel	<0.065 mm	66	102	42.9
SS-06G	7-Jun-18	Cadmium	0.065-1 mm	1	1.6	46.2
SS-06G	7-Jun-18	Copper	0.065-1 mm	238	117	68.2
SS-06G	7-Jun-18	Copper	1-2 mm	115	72	46.0
SS-15A-2	6-Jun-18	Lead	0.065-1 mm	43	71	49.1
SS-15A-2	6-Jun-18	Arsenic	1-2 mm	25	105	123.1
SS-15A-2	6-Jun-18	Cadmium	1-2 mm	0.7	2.6	115.2
SS-15A-2	6-Jun-18	Copper	1-2 mm	103	335	105.9
SS-15A-2	6-Jun-18	Lead	1-2 mm	56	35	46.2
SS-15A-2	6-Jun-18	Zinc	1-2 mm	203	518	87.4
SS-15A-2	12-Sep-18	Cadmium	0.065-1 mm	6.2	2	102.4
SS-15A-2	12-Sep-18	Iron	0.065-1 mm	17300	27900	46.9
SS-15A-2	12-Sep-18	Lead	0.065-1 mm	377	68	138.9
SS-15A-2	12-Sep-18	Vanadium	0.065-1 mm	45	80	56.0
SS-15A-2	12-Sep-18	Zinc	0.065-1 mm	1240	633	64.8
SS-15A-2	12-Sep-18	Cadmium	1-2 mm	0.5	2.7	137.5
SS-15A-2	12-Sep-18	Lead	1-2 mm	39	77	65.5
SS-15A-2	12-Sep-18	Manganese	1-2 mm	437	2070	130.3
SS-07	29-Nov-18	Cadmium	0.065-1 mm	1.1	1.7	42.9
SS-07	29-Nov-18	Barium	1-2 mm	292	61	130.9
SS-07	29-Nov-18	Copper	1-2 mm	137	77	56.1
SS-07	29-Nov-18	Lead	1-2 mm	343	45	153.6

A.3.5.3 Bias and Accuracy

Bias is defined as directional error from the true value of individual measurements. For field measurements (water temperature, pH, specific conductance, dissolved oxygen [DO] concentration, DO percent saturation, and turbidity), potential bias was addressed through frequent calibration of field instruments documented in calibration logs, and consistent field procedures. For water chemistry and sediment results, potential bias was minimized by adherence to approved field procedures for sample collection and handling, and decontamination of sampling equipment.

Accuracy is the combination of high precision and low bias. Accuracy of laboratory results was assessed by reviewing the analytical method controls (i.e., lab control sample, continuing calibration verification, lab fortified blank, standard reference material) and analytical batch controls (i.e., matrix spike and matrix spike duplicate). Limits established by the laboratory through control charting of each method's performance served as assessment criteria. Any analytical method controls or analytical batch controls that had values outside of the acceptable recovery range were re-analyzed, as detailed in the analytical QC summary provided by Energy Laboratories and included with each analytical summary report (Appendix B).

APPENDIX B

Analytical Laboratory Results

APPENDIX B-1

First Quarter Results

ANALYTICAL SUMMARY REPORT

April 17, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18030365 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 62 samples for MT DEQ-Federal Superfund on 3/23/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18030365-001	Field Blank #2 SS-06G	03/22/18 14:30	03/23/18	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended
H18030365-002	SS-06G	03/22/18 14:45	03/23/18	Aqueous	Same As Above
H18030365-003	SS-07	03/22/18 14:00	03/23/18	Aqueous	Same As Above
H18030365-004	SS-08	03/22/18 12:45	03/23/18	Aqueous	Same As Above
H18030365-005	SS-08 Duplicate	03/22/18 12:45	03/23/18	Aqueous	Same As Above
H18030365-006	SS-10A	03/22/18 11:30	03/23/18	Aqueous	Same As Above
H18030365-007	SS-11C	03/22/18 9:00	03/23/18	Aqueous	Same As Above
H18030365-008	SS-11D	03/22/18 8:30	03/23/18	Aqueous	Same As Above
H18030365-009	SS-13	03/21/18 17:30	03/23/18	Aqueous	Same As Above
H18030365-010	SS-14	03/21/18 16:15	03/23/18	Aqueous	Same As Above
H18030365-011	SS-15A-2	03/21/18 14:00	03/23/18	Aqueous	Same As Above
H18030365-012	Field Blank #1 SS-15B	03/21/18 12:00	03/23/18	Aqueous	Same As Above
H18030365-013	SS-15B	03/21/18 12:45	03/23/18	Aqueous	Same As Above
H18030365-014	SS-16	03/21/18 10:45	03/23/18	Aqueous	Same As Above
H18030365-015	SS-17D	03/21/18 9:45	03/23/18	Aqueous	Same As Above
H18030365-016	SS-19	03/21/18 8:45	03/23/18	Aqueous	Same As Above

ANALYTICAL SUMMARY REPORT

H18030365-017	SS-06G Sediment Sieve <0.065mm	03/22/18 14:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-018	SS-06G Sediment Sieve 0.065mm-1mm	03/22/18 14:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-019	SS-06G Sediment Sieve 1mm-2mm	03/22/18 14:45	03/23/18	Sediment	Same As Above
H18030365-020	SS-07 Sediment Sieve <0.065mm	03/22/18 14:00	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-021	SS-07 Sediment Sieve <0.065mm-1mm	03/22/18 14:00	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-022	SS-07 Sediment Sieve 1mm-2mm	03/22/18 14:00	03/23/18	Sediment	Same As Above
H18030365-023	SS-08 Sediment Sieve <0.065mm	03/22/18 12:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-024	SS-08 Sediment Sieve 0.065-1mm	03/22/18 12:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-025	SS-08 Sediment Sieve 1mm-2mm	03/22/18 12:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-026	SS-08 Duplicate Sediment Sieve <0.065mm	03/22/18 12:45	03/23/18	Sediment	Same As Above
H18030365-027	SS-08 Duplicate Sediment Sieve 0.065mm-1mm	03/22/18 12:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet

ANALYTICAL SUMMARY REPORT

H18030365-028	SS-08 Duplicate Sediment Sieve 1mm-2mm	03/22/18 12:45	03/23/18	Sediment	Same As Above
H18030365-029	SS-10A Sediment Sieve <0.065mm	03/22/18 11:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-030	SS-10A Sediment Sieve 0.065mm-1mm	03/22/18 11:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-031	SS-10A Sediment Sieve 1mm-2mm	03/22/18 11:30	03/23/18	Sediment	Same As Above
H18030365-032	SS-11C Sediment Sieve <0.065mm	03/22/18 9:00	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-033	SS-11C Sediment Sieve 0.065mm-1mm	03/22/18 9:00	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-034	SS-11C Sediment Sieve 1mm-2mm	03/22/18 9:00	03/23/18	Sediment	Same As Above
H18030365-035	SS-11D Sediment Sieve <0.065mm	03/22/18 8:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-036	SS-11D Sediment Sieve 0.065mm-1mm	03/22/18 8:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-037	SS-11D Sediment Sieve 1mm-2mm	03/22/18 8:30	03/23/18	Sediment	Same As Above
H18030365-038	SS-13 Sediment Sieve <0.065mm	03/21/18 17:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation

ANALYTICAL SUMMARY REPORT

H18030365-039	SS-13 Sediment Sieve 0.065mm-1mm	03/21/18 17:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-040	SS-13 Sediment Sieve 1mm-2mm	03/21/18 17:30	03/23/18	Sediment	Same As Above
H18030365-041	SS-14 Sediment Sieve <0.065mm	03/21/18 16:15	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-042	SS-14 Sediment Sieve 0.065mm-1mm	03/21/18 16:15	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-043	SS-14 Sediment Sieve 1mm-2mm	03/21/18 16:15	03/23/18	Sediment	Same As Above
H18030365-044	SS-15A-2 Sediment Sieve <0.065mm	03/21/18 14:00	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-045	SS-15A-2 Sediment Sieve 0.065mm-1mm	03/21/18 14:00	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-046	SS-15A-2 Sediment Sieve 1mm-2mm	03/21/18 14:00	03/23/18	Sediment	Same As Above
H18030365-047	SS-15B Sediment Sieve <0.065mm	03/21/18 12:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-048	SS-15B Sediment Sieve 0.065mm-1mm	03/21/18 12:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-049	SS-15B Sediment Sieve 1mm-2mm	03/21/18 12:45	03/23/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18030365-050	SS-16 Sediment Sieve <0.065mm	03/21/18 10:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-051	SS-16 Sediment Sieve 0.065mm-1mm	03/21/18 10:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-052	SS-16 Sediment Sieve 1mm-2mm	03/21/18 10:45	03/23/18	Sediment	Same As Above
H18030365-053	SS-16 Duplicate Sediment Sieve <0.065mm	03/21/18 10:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-054	SS-16 Duplicate Sediment Sieve 0.065mm-1mm	03/21/18 10:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-055	SS-16 Duplicate Sediment Sieve 1mm-2mm	03/21/18 10:45	03/23/18	Sediment	Same As Above
H18030365-056	SS-17D Sediment Sieve <0.065mm	03/21/18 9:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-057	SS-17D Sediment Sieve 0.065mm-1mm	03/21/18 9:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030365-058	SS-17D Sediment Sieve 1mm-2mm	03/21/18 9:45	03/23/18	Sediment	Same As Above
H18030365-059	SS-19 Sediment Sieve <0.065mm	03/21/18 8:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet Soil Preparation
H18030365-060	SS-19 Sediment Sieve 0.065mm-1mm	03/21/18 8:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet

ANALYTICAL SUMMARY REPORT

H18030365-061	SS-19 Sediment Sieve 1mm-2mm	03/21/18 8:45	03/23/18	Sediment	Same As Above
H18030365-062	SS-14 Duplicate	03/21/18 16:15	03/23/18	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-001
Collection Date: 03/22/18 14:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	03/26/18 11:59 / km			124 (14410200)_180326A	36	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	0.7	A2320 B	03/26/18 15:16 / km			PHSC_101-H_180326A	65	R133328
Bicarbonate as HCO3	2	mg/L	J	4	0.7	A2320 B	03/26/18 15:16 / km			PHSC_101-H_180326A	65	R133328
Chloride	0.012	mg/L	J	1	0.003	E300.0	03/26/18 18:29 / SR			IC METROHM_180326A	30	R133379
Sulfate	ND	mg/L		1	0.01	E300.0	03/26/18 18:29 / SR			IC METROHM_180326A	30	R133379
Hardness as CaCO3	2	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	1	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	03/26/18 14:08 / cm			FIA203-HE_180326B	15	R133359
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.007	E353.2	03/26/18 10:34 / cm			FIA203-HE_180326A	83	R133339
Nitrogen, Total	ND	mg/L		0.05	0.01	A4500 N-C	03/27/18 10:32 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	78	40919
Phosphorus, Total as P	ND	mg/L		0.003	0.0006	E365.1	03/27/18 14:04 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	53	40927
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.0007	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Antimony	ND	mg/L		0.0005	0.00002	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Arsenic	ND	mg/L		0.001	0.00002	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Barium	0.004	mg/L		0.003	0.00002	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Boron	ND	mg/L		0.1	0.003	E200.7	03/26/18 15:10 / sld			ICP2-HE_180326A	102	R133366
Cadmium	ND	mg/L		0.00003	0.00002	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Calcium	0.30	mg/L	J	1	0.01	E200.7	03/26/18 15:10 / sld			ICP2-HE_180326A	102	R133366
Chromium	ND	mg/L		0.01	0.00003	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Cobalt	ND	mg/L		0.01	0.00002	E200.8	03/26/18 23:51 / sld			ICPMS205-H_180326C	188	R133370
Copper	ND	mg/L		0.001	0.00004	E200.8	03/26/18 23:51 / sld			ICPMS205-H_180326C	188	R133370
Iron	0.006	mg/L	J	0.02	0.002	E200.8	03/26/18 23:51 / sld			ICPMS205-H_180326C	188	R133370
Lead	ND	mg/L		0.0003	0.00001	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Magnesium	0.013	mg/L	J	1	0.005	E200.7	03/26/18 15:10 / sld			ICP2-HE_180326A	102	R133366
Manganese	0.00008	mg/L	J	0.001	0.00003	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Mercury	ND	mg/L		5E-06	6E-07	E245.1	03/27/18 13:38 / PN	03/26/18 07:52	E245.1	HGCV202-H_180327A	121	40904
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Nickel	ND	mg/L		0.002	0.00003	E200.8	03/26/18 23:51 / sld			ICPMS205-H_180326C	188	R133370
Potassium	ND	mg/L		1	0.05	E200.7	03/26/18 15:10 / sld			ICP2-HE_180326A	102	R133366

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-001
Collection Date: 03/22/18 14:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00003	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/26/18 23:51 / sld			ICPMS205-H_180326C	188	R133370
Sodium	0.04	mg/L	J	1	0.02	E200.7	03/26/18 15:10 / sld			ICP2-HE_180326A	102	R133366
Uranium	ND	mg/L		0.0002	3E-06	E200.8	03/26/18 23:51 / sld			ICPMS205-H_180326C	188	R133370
Vanadium	ND	mg/L		0.1	0.00007	E200.8	03/27/18 16:54 / sld			ICPMS205-H_180327A	144	R133388
Zinc	0.015	mg/L		0.008	0.0001	E200.8	03/28/18 14:54 / sld			ICPMS205-H_180328A	44	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.009	mg/L	J	0.009	0.003	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Antimony	0.00004	mg/L	J	0.0005	0.00002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Arsenic	ND	mg/L		0.001	0.00002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Barium	ND	mg/L		0.003	0.00006	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Boron	ND	mg/L		0.1	0.002	E200.7	03/27/18 17:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	122	40908
Cadmium	ND	mg/L		0.00003	0.00002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Calcium	0.62	mg/L	J	1	0.01	E200.7	03/27/18 17:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	122	40908
Chromium	ND	mg/L		0.01	0.0002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Cobalt	ND	mg/L		0.01	0.00002	E200.8	03/26/18 23:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	189	40908
Copper	ND	mg/L		0.001	0.0003	E200.8	03/26/18 23:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	189	40908
Iron	ND	mg/L		0.02	0.02	E200.8	03/26/18 23:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	189	40908
Lead	ND	mg/L		0.0003	0.00003	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Magnesium	0.027	mg/L	J	1	0.009	E200.7	03/27/18 17:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	122	40908
Manganese	ND	mg/L		0.001	0.0002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Mercury	ND	mg/L		5E-06	6E-07	E245.1	03/27/18 13:47 / PN	03/26/18 07:52	E245.1	HGCV202-H_180327A	124	40904
Molybdenum	ND	mg/L		0.005	0.00003	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/26/18 23:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	189	40908
Potassium	ND	mg/L		1	0.05	E200.7	03/27/18 17:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	122	40908
Selenium	ND	mg/L		0.001	0.00002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/26/18 23:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	189	40908
Sodium	ND	mg/L		1	0.02	E200.7	03/27/18 17:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	122	40908
Uranium	ND	mg/L		0.0002	8E-06	E200.8	03/26/18 23:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	189	40908
Vanadium	ND	mg/L		0.1	0.00003	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908
Zinc	0.002	mg/L	J	0.008	0.002	E200.8	03/27/18 17:12 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	152	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-002
Collection Date: 03/22/18 14:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	7	mg/L		1	0.3	A2540 D	03/26/18 11:59 / km			124 (14410200)_180326A	37	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	91	mg/L		4	0.7	A2320 B	03/26/18 15:22 / km			PHSC_101-H_180326A	67	R133328
Bicarbonate as HCO3	110	mg/L		4	0.7	A2320 B	03/26/18 15:22 / km			PHSC_101-H_180326A	67	R133328
Chloride	44	mg/L		1	0.003	E300.0	03/26/18 18:43 / SR			IC METROHM_180326A	31	R133379
Sulfate	87	mg/L		1	0.01	E300.0	03/26/18 18:43 / SR			IC METROHM_180326A	31	R133379
Hardness as CaCO3	187	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	2	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	03/26/18 14:09 / cm			FIA203-HE_180326B	16	R133359
Nitrogen, Nitrate+Nitrite as N	1.08	mg/L		0.02	0.007	E353.2	03/26/18 10:35 / cm			FIA203-HE_180326A	84	R133339
Nitrogen, Total	1.50	mg/L		0.05	0.01	A4500 N-C	03/27/18 10:33 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	79	40919
Phosphorus, Total as P	0.108	mg/L		0.003	0.0006	E365.1	03/27/18 14:05 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	54	40927
METALS, DISSOLVED												
Aluminum	0.0029	mg/L	J	0.009	0.0007	E200.8	03/27/18 17:14 / sld			ICPMS205-H_180327A	153	R133388
Antimony	0.00009	mg/L	J	0.0005	0.00002	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Arsenic	0.005	mg/L		0.001	0.00002	E200.8	03/27/18 17:14 / sld			ICPMS205-H_180327A	153	R133388
Barium	0.044	mg/L		0.003	0.00002	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Boron	0.063	mg/L	J	0.1	0.003	E200.7	03/26/18 15:14 / sld			ICP2-HE_180326A	103	R133366
Cadmium	0.00008	mg/L		0.00003	0.00002	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Calcium	49	mg/L		1	0.01	E200.7	03/26/18 15:14 / sld			ICP2-HE_180326A	103	R133366
Chromium	0.00015	mg/L	J	0.01	0.00003	E200.8	03/27/18 17:14 / sld			ICPMS205-H_180327A	153	R133388
Cobalt	0.00030	mg/L	J	0.01	0.00002	E200.8	03/26/18 23:56 / sld			ICPMS205-H_180326C	190	R133370
Copper	0.008	mg/L		0.001	0.00004	E200.8	03/26/18 23:56 / sld			ICPMS205-H_180326C	190	R133370
Iron	0.18	mg/L		0.02	0.002	E200.8	03/26/18 23:56 / sld			ICPMS205-H_180326C	190	R133370
Lead	0.00016	mg/L	J	0.0003	0.00001	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Magnesium	14	mg/L		1	0.05	E200.7	03/26/18 15:14 / sld			ICP2-HE_180326A	103	R133366
Manganese	0.169	mg/L		0.001	0.00003	E200.8	03/27/18 17:14 / sld			ICPMS205-H_180327A	153	R133388
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 13:23 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	77	40904
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Nickel	0.00071	mg/L	J	0.002	0.00003	E200.8	03/26/18 23:56 / sld			ICPMS205-H_180326C	190	R133370
Potassium	5	mg/L		1	0.05	E200.7	03/26/18 15:14 / sld			ICP2-HE_180326A	103	R133366

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-002
Collection Date: 03/22/18 14:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00012	mg/L	J	0.001	0.00003	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/26/18 23:56 / sld			ICPMS205-H_180326C	190	R133370
Sodium	24	mg/L		1	0.02	E200.7	03/26/18 15:14 / sld			ICP2-HE_180326A	103	R133366
Uranium	0.0051	mg/L		0.0002	3E-06	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
Vanadium	0.0019	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:14 / sld			ICPMS205-H_180327A	153	R133388
Zinc	0.025	mg/L		0.008	0.0001	E200.8	03/28/18 14:56 / sld			ICPMS205-H_180328A	45	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.121	mg/L		0.009	0.003	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Antimony	0.00032	mg/L	J	0.0005	0.00002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Arsenic	0.006	mg/L		0.001	0.00002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Barium	0.044	mg/L		0.003	0.00006	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Boron	0.061	mg/L	J	0.1	0.002	E200.7	03/27/18 17:27 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	127	40908
Cadmium	0.00014	mg/L		0.00003	0.00002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Calcium	51	mg/L		1	0.01	E200.7	03/27/18 17:27 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	127	40908
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Cobalt	0.00036	mg/L	J	0.01	0.00002	E200.8	03/26/18 23:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	191	40908
Copper	0.013	mg/L		0.001	0.0003	E200.8	03/26/18 23:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	191	40908
Iron	0.48	mg/L		0.02	0.02	E200.8	03/26/18 23:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	191	40908
Lead	0.0020	mg/L		0.0003	0.00003	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Magnesium	15	mg/L		1	0.09	E200.7	03/27/18 17:27 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	127	40908
Manganese	0.187	mg/L		0.001	0.0002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Mercury	7.4E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 13:26 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	78	40904
Molybdenum	0.005	mg/L		0.005	0.00003	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/26/18 23:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	191	40908
Potassium	5	mg/L		1	0.05	E200.7	03/27/18 17:27 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	127	40908
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Silver	0.000036	mg/L	J	0.0002	8E-06	E200.8	03/26/18 23:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	191	40908
Sodium	24	mg/L		1	0.02	E200.7	03/27/18 17:27 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	127	40908
Uranium	0.0051	mg/L		0.0002	8E-06	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Vanadium	0.0024	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908
Zinc	0.036	mg/L		0.008	0.002	E200.8	03/27/18 17:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	154	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-003
Collection Date: 03/22/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	5	mg/L	D	2	0.3	A2540 D	03/26/18 12:00 / km			124 (14410200)_180326A	38	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 15:28 / km			PHSC_101-H_180326A	69	R133328
Bicarbonate as HCO3	130	mg/L		4	0.7	A2320 B	03/26/18 15:28 / km			PHSC_101-H_180326A	69	R133328
Chloride	46	mg/L		1	0.003	E300.0	03/26/18 20:11 / SR			IC METROHM_180326A	36	R133379
Sulfate	82	mg/L		1	0.01	E300.0	03/26/18 20:11 / SR			IC METROHM_180326A	36	R133379
Hardness as CaCO3	175	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	3	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	1.68	mg/L		0.05	0.02	E350.1	03/26/18 14:10 / cm			FIA203-HE_180326B	17	R133359
Nitrogen, Nitrate+Nitrite as N	1.07	mg/L		0.02	0.007	E353.2	03/26/18 10:37 / cm			FIA203-HE_180326A	85	R133339
Nitrogen, Total	3.5	mg/L	D	0.6	0.2	A4500 N-C	03/30/18 09:21 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	13	40964
Phosphorus, Total as P	0.109	mg/L		0.003	0.0006	E365.1	03/27/18 14:06 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	55	40927
METALS, DISSOLVED												
Aluminum	0.0076	mg/L	J	0.009	0.0007	E200.8	03/27/18 17:18 / sld			ICPMS205-H_180327A	155	R133388
Antimony	0.00017	mg/L	J	0.0005	0.00002	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Arsenic	0.004	mg/L		0.001	0.00002	E200.8	03/27/18 17:18 / sld			ICPMS205-H_180327A	155	R133388
Barium	0.039	mg/L		0.003	0.00002	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Boron	0.076	mg/L	J	0.1	0.003	E200.7	03/26/18 15:25 / sld			ICP2-HE_180326A	106	R133366
Cadmium	0.00009	mg/L		0.00003	0.00002	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Calcium	47	mg/L		1	0.01	E200.7	03/26/18 15:25 / sld			ICP2-HE_180326A	106	R133366
Chromium	0.00014	mg/L	J	0.01	0.00003	E200.8	03/27/18 17:18 / sld			ICPMS205-H_180327A	155	R133388
Cobalt	0.00028	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:16 / sld			ICPMS205-H_180326C	199	R133370
Copper	0.007	mg/L		0.001	0.00004	E200.8	03/27/18 00:16 / sld			ICPMS205-H_180326C	199	R133370
Iron	0.15	mg/L		0.02	0.002	E200.8	03/27/18 00:16 / sld			ICPMS205-H_180326C	199	R133370
Lead	0.00019	mg/L	J	0.0003	0.00001	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Magnesium	14	mg/L		1	0.05	E200.7	03/26/18 15:25 / sld			ICP2-HE_180326A	106	R133366
Manganese	0.147	mg/L		0.001	0.00003	E200.8	03/27/18 17:18 / sld			ICPMS205-H_180327A	155	R133388
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 13:29 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	79	40904
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Nickel	0.00097	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:16 / sld			ICPMS205-H_180326C	199	R133370
Potassium	6	mg/L		1	0.05	E200.7	03/26/18 15:25 / sld			ICP2-HE_180326A	106	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-003
Collection Date: 03/22/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00014	mg/L	J	0.001	0.00003	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/27/18 00:16 / sld			ICPMS205-H_180326C	199	R133370
Sodium	31	mg/L		1	0.02	E200.7	03/26/18 15:25 / sld			ICP2-HE_180326A	106	R133366
Uranium	0.0044	mg/L		0.0002	3E-06	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:18 / sld			ICPMS205-H_180327A	155	R133388
Zinc	0.040	mg/L		0.008	0.0001	E200.8	03/28/18 14:58 / sld			ICPMS205-H_180328A	46	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.087	mg/L		0.009	0.003	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Antimony	0.00037	mg/L	J	0.0005	0.00002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Arsenic	0.005	mg/L		0.001	0.00002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Barium	0.039	mg/L		0.003	0.00006	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Boron	0.071	mg/L	J	0.1	0.002	E200.7	03/27/18 17:39 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	130	40908
Cadmium	0.00011	mg/L		0.00003	0.00002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Calcium	47	mg/L		1	0.01	E200.7	03/27/18 17:39 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	130	40908
Chromium	0.0003	mg/L	J	0.01	0.0002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Cobalt	0.00034	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:18 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	200	40908
Copper	0.011	mg/L		0.001	0.0003	E200.8	03/27/18 00:18 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	200	40908
Iron	0.36	mg/L		0.02	0.02	E200.8	03/27/18 00:18 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	200	40908
Lead	0.0010	mg/L		0.0003	0.00003	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Magnesium	14	mg/L		1	0.09	E200.7	03/27/18 17:39 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	130	40908
Manganese	0.157	mg/L		0.001	0.0002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Mercury	4.3E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 13:32 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	80	40904
Molybdenum	0.0049	mg/L	J	0.005	0.00003	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:18 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	200	40908
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 17:39 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	130	40908
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Silver	0.000032	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:18 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	200	40908
Sodium	31	mg/L		1	0.02	E200.7	03/27/18 17:39 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	130	40908
Uranium	0.0043	mg/L		0.0002	8E-06	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Vanadium	0.0022	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908
Zinc	0.044	mg/L		0.008	0.002	E200.8	03/27/18 17:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	156	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-004
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	9	mg/L		1	0.3	A2540 D	03/26/18 12:00 / km			124 (14410200)_180326A	40	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 15:33 / km			PHSC_101-H_180326A	71	R133328
Bicarbonate as HCO3	120	mg/L		4	0.7	A2320 B	03/26/18 15:33 / km			PHSC_101-H_180326A	71	R133328
Chloride	46	mg/L		1	0.003	E300.0	03/26/18 20:26 / SR			IC METROHM_180326A	37	R133379
Sulfate	89	mg/L		1	0.01	E300.0	03/26/18 20:26 / SR			IC METROHM_180326A	37	R133379
Hardness as CaCO3	181	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	4	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	1.11	mg/L		0.05	0.02	E350.1	03/26/18 14:11 / cm			FIA203-HE_180326B	18	R133359
Nitrogen, Nitrate+Nitrite as N	1.12	mg/L		0.02	0.007	E353.2	03/26/18 10:38 / cm			FIA203-HE_180326A	86	R133339
Nitrogen, Total	3.5	mg/L	D	0.3	0.1	A4500 N-C	03/27/18 11:13 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	113	40919
Phosphorus, Total as P	0.124	mg/L		0.003	0.0006	E365.1	03/27/18 14:09 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	58	40927
METALS, DISSOLVED												
Aluminum	0.0049	mg/L	J	0.009	0.0007	E200.8	03/27/18 17:38 / sld			ICPMS205-H_180327A	164	R133388
Antimony	0.00018	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Arsenic	0.004	mg/L		0.001	0.00002	E200.8	03/27/18 17:38 / sld			ICPMS205-H_180327A	164	R133388
Barium	0.041	mg/L		0.003	0.00002	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Boron	0.078	mg/L	J	0.1	0.003	E200.7	03/26/18 15:29 / sld			ICP2-HE_180326A	107	R133366
Cadmium	0.00019	mg/L		0.00003	0.00002	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Calcium	48	mg/L		1	0.01	E200.7	03/26/18 15:29 / sld			ICP2-HE_180326A	107	R133366
Chromium	0.00012	mg/L	J	0.01	0.00003	E200.8	03/27/18 17:38 / sld			ICPMS205-H_180327A	164	R133388
Cobalt	0.00027	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:20 / sld			ICPMS205-H_180326C	201	R133370
Copper	0.009	mg/L		0.001	0.00004	E200.8	03/27/18 00:20 / sld			ICPMS205-H_180326C	201	R133370
Iron	0.13	mg/L		0.02	0.002	E200.8	03/27/18 00:20 / sld			ICPMS205-H_180326C	201	R133370
Lead	0.00024	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Magnesium	14	mg/L		1	0.05	E200.7	03/26/18 15:29 / sld			ICP2-HE_180326A	107	R133366
Manganese	0.182	mg/L		0.001	0.00003	E200.8	03/27/18 17:38 / sld			ICPMS205-H_180327A	164	R133388
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 13:35 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	81	40904
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Nickel	0.00096	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:20 / sld			ICPMS205-H_180326C	201	R133370
Potassium	6	mg/L		1	0.05	E200.7	03/26/18 15:29 / sld			ICP2-HE_180326A	107	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-004
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00012	mg/L	J	0.001	0.00003	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/27/18 00:20 / sld			ICPMS205-H_180326C	201	R133370
Sodium	32	mg/L		1	0.02	E200.7	03/26/18 15:29 / sld			ICP2-HE_180326A	107	R133366
Uranium	0.0047	mg/L		0.0002	3E-06	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
Vanadium	0.0014	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:38 / sld			ICPMS205-H_180327A	164	R133388
Zinc	0.066	mg/L		0.008	0.0001	E200.8	03/28/18 15:01 / sld			ICPMS205-H_180328A	47	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.170	mg/L		0.009	0.003	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Antimony	0.00041	mg/L	J	0.0005	0.00002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Arsenic	0.005	mg/L		0.001	0.00002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Barium	0.042	mg/L		0.003	0.00006	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Boron	0.073	mg/L	J	0.1	0.002	E200.7	03/27/18 17:43 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	131	40908
Cadmium	0.00024	mg/L		0.00003	0.00002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Calcium	49	mg/L		1	0.01	E200.7	03/27/18 17:43 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	131	40908
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Cobalt	0.00040	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:22 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	202	40908
Copper	0.016	mg/L		0.001	0.0003	E200.8	03/27/18 00:22 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	202	40908
Iron	0.50	mg/L		0.02	0.02	E200.8	03/27/18 00:22 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	202	40908
Lead	0.0020	mg/L		0.0003	0.00003	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Magnesium	14	mg/L		1	0.09	E200.7	03/27/18 17:43 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	131	40908
Manganese	0.203	mg/L		0.001	0.0002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Mercury	6.4E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 13:38 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	82	40904
Molybdenum	0.0048	mg/L	J	0.005	0.00003	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:22 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	202	40908
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 17:43 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	131	40908
Selenium	0.00023	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Silver	0.000041	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:22 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	202	40908
Sodium	31	mg/L		1	0.02	E200.7	03/27/18 17:43 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	131	40908
Uranium	0.0047	mg/L		0.0002	8E-06	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Vanadium	0.0022	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908
Zinc	0.075	mg/L		0.008	0.002	E200.8	03/27/18 17:40 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	165	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-005
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	10	mg/L		1	0.3	A2540 D	03/26/18 14:26 / km			l24 (14410200)_180326A	41	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 15:38 / km			PHSC_101-H_180326A	73	R133328
Bicarbonate as HCO3	130	mg/L		4	0.7	A2320 B	03/26/18 15:38 / km			PHSC_101-H_180326A	73	R133328
Chloride	46	mg/L		1	0.003	E300.0	03/26/18 20:40 / SR			IC METROHM_180326A	38	R133379
Sulfate	88	mg/L		1	0.01	E300.0	03/26/18 20:40 / SR			IC METROHM_180326A	38	R133379
Hardness as CaCO3	184	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	5	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	1.12	mg/L		0.05	0.02	E350.1	03/26/18 14:12 / cm			FIA203-HE_180326B	19	R133359
Nitrogen, Nitrate+Nitrite as N	1.12	mg/L		0.02	0.007	E353.2	03/26/18 10:39 / cm			FIA203-HE_180326A	87	R133339
Nitrogen, Total	2.82	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:17 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	116	40919
Phosphorus, Total as P	0.115	mg/L		0.003	0.0006	E365.1	03/27/18 14:12 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	61	40927
METALS, DISSOLVED												
Aluminum	0.0044	mg/L	J	0.009	0.0007	E200.8	03/27/18 17:43 / sld			ICPMS205-H_180327A	166	R133388
Antimony	0.00016	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Arsenic	0.004	mg/L		0.001	0.00002	E200.8	03/27/18 17:43 / sld			ICPMS205-H_180327A	166	R133388
Barium	0.041	mg/L		0.003	0.00002	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Boron	0.076	mg/L	J	0.1	0.003	E200.7	03/26/18 15:33 / sld			ICP2-HE_180326A	108	R133366
Cadmium	0.00018	mg/L		0.00003	0.00002	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Calcium	48	mg/L		1	0.01	E200.7	03/26/18 15:33 / sld			ICP2-HE_180326A	108	R133366
Chromium	0.00011	mg/L	J	0.01	0.00003	E200.8	03/27/18 17:43 / sld			ICPMS205-H_180327A	166	R133388
Cobalt	0.00028	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:25 / sld			ICPMS205-H_180326C	203	R133370
Copper	0.009	mg/L		0.001	0.00004	E200.8	03/27/18 00:25 / sld			ICPMS205-H_180326C	203	R133370
Iron	0.13	mg/L		0.02	0.002	E200.8	03/27/18 00:25 / sld			ICPMS205-H_180326C	203	R133370
Lead	0.00023	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Magnesium	14	mg/L		1	0.05	E200.7	03/26/18 15:33 / sld			ICP2-HE_180326A	108	R133366
Manganese	0.182	mg/L		0.001	0.00003	E200.8	03/27/18 17:43 / sld			ICPMS205-H_180327A	166	R133388
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 13:41 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	83	40904
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Nickel	0.00098	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:25 / sld			ICPMS205-H_180326C	203	R133370
Potassium	6	mg/L		1	0.05	E200.7	03/26/18 15:33 / sld			ICP2-HE_180326A	108	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-005
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00013	mg/L	J	0.001	0.00003	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/27/18 00:25 / sld			ICPMS205-H_180326C	203	R133370
Sodium	31	mg/L		1	0.02	E200.7	03/26/18 15:33 / sld			ICP2-HE_180326A	108	R133366
Uranium	0.0047	mg/L		0.0002	3E-06	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
Vanadium	0.0014	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:43 / sld			ICPMS205-H_180327A	166	R133388
Zinc	0.062	mg/L		0.008	0.0001	E200.8	03/28/18 15:03 / sld			ICPMS205-H_180328A	48	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.198	mg/L		0.009	0.003	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Antimony	0.00040	mg/L	J	0.0005	0.00002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Arsenic	0.005	mg/L		0.001	0.00002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Barium	0.042	mg/L		0.003	0.00006	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Boron	0.073	mg/L	J	0.1	0.002	E200.7	03/27/18 17:46 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	132	40908
Cadmium	0.00025	mg/L		0.00003	0.00002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Calcium	50	mg/L		1	0.01	E200.7	03/27/18 17:46 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	132	40908
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Cobalt	0.00040	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:27 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	204	40908
Copper	0.016	mg/L		0.001	0.0003	E200.8	03/27/18 00:27 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	204	40908
Iron	0.53	mg/L		0.02	0.02	E200.8	03/27/18 00:27 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	204	40908
Lead	0.0021	mg/L		0.0003	0.00003	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Magnesium	14	mg/L		1	0.09	E200.7	03/27/18 17:46 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	132	40908
Manganese	0.206	mg/L		0.001	0.0002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Mercury	6.7E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 09:58 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	18	40904
Molybdenum	0.0048	mg/L	J	0.005	0.00003	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:27 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	204	40908
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 17:46 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	132	40908
Selenium	0.00021	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Silver	0.000044	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:27 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	204	40908
Sodium	32	mg/L		1	0.02	E200.7	03/27/18 17:46 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	132	40908
Uranium	0.0048	mg/L		0.0002	8E-06	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Vanadium	0.0022	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908
Zinc	0.073	mg/L		0.008	0.002	E200.8	03/27/18 17:45 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	167	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-006
Collection Date: 03/22/18 11:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	11	mg/L		1	0.3	A2540 D	03/26/18 14:26 / km			124 (14410200)_180326A	42	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	98	mg/L		4	0.7	A2320 B	03/26/18 15:43 / km			PHSC_101-H_180326A	75	R133328
Bicarbonate as HCO3	120	mg/L		4	0.7	A2320 B	03/26/18 15:43 / km			PHSC_101-H_180326A	75	R133328
Chloride	39	mg/L		1	0.003	E300.0	03/26/18 20:55 / SR			IC METROHM_180326A	39	R133379
Sulfate	80	mg/L		1	0.01	E300.0	03/26/18 20:55 / SR			IC METROHM_180326A	39	R133379
Hardness as CaCO3	170	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	6	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.63	mg/L		0.05	0.02	E350.1	03/26/18 14:14 / cm			FIA203-HE_180326B	20	R133359
Nitrogen, Nitrate+Nitrite as N	1.04	mg/L		0.02	0.007	E353.2	03/26/18 10:40 / cm			FIA203-HE_180326A	88	R133339
Nitrogen, Total	2.24	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:18 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	117	40919
Phosphorus, Total as P	0.154	mg/L		0.003	0.0006	E365.1	03/27/18 14:13 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	62	40927
METALS, DISSOLVED												
Aluminum	0.011	mg/L		0.009	0.0007	E200.8	03/27/18 17:47 / sld			ICPMS205-H_180327A	168	R133388
Antimony	0.00020	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Arsenic	0.007	mg/L		0.001	0.00002	E200.8	03/27/18 17:47 / sld			ICPMS205-H_180327A	168	R133388
Barium	0.040	mg/L		0.003	0.00002	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Boron	0.064	mg/L	J	0.1	0.003	E200.7	03/26/18 15:37 / sld			ICP2-HE_180326A	109	R133366
Cadmium	0.00039	mg/L		0.00003	0.00002	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Calcium	45	mg/L		1	0.01	E200.7	03/26/18 15:37 / sld			ICP2-HE_180326A	109	R133366
Chromium	0.00009	mg/L	J	0.01	0.00003	E200.8	03/27/18 17:47 / sld			ICPMS205-H_180327A	168	R133388
Cobalt	0.00026	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:29 / sld			ICPMS205-H_180326C	205	R133370
Copper	0.023	mg/L		0.001	0.00004	E200.8	03/27/18 00:29 / sld			ICPMS205-H_180326C	205	R133370
Iron	0.16	mg/L		0.02	0.002	E200.8	03/27/18 00:29 / sld			ICPMS205-H_180326C	205	R133370
Lead	0.0003	mg/L		0.0003	0.00001	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Magnesium	12	mg/L		1	0.05	E200.7	03/26/18 15:37 / sld			ICP2-HE_180326A	109	R133366
Manganese	0.200	mg/L		0.001	0.00003	E200.8	03/27/18 17:47 / sld			ICPMS205-H_180327A	168	R133388
Mercury	1.7E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 13:44 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	84	40904
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Nickel	0.00082	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:29 / sld			ICPMS205-H_180326C	205	R133370
Potassium	6	mg/L		1	0.05	E200.7	03/26/18 15:37 / sld			ICP2-HE_180326A	109	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-006
Collection Date: 03/22/18 11:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00012	mg/L	J	0.001	0.00003	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
Silver	8.9E-06	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:29 / sld			ICPMS205-H_180326C	205	R133370
Sodium	28	mg/L		1	0.02	E200.7	03/26/18 15:37 / sld			ICP2-HE_180326A	109	R133366
Uranium	0.0046	mg/L		0.0002	3E-06	E200.8	03/27/18 00:29 / sld			ICPMS205-H_180326C	205	R133370
Vanadium	0.0015	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:47 / sld			ICPMS205-H_180327A	168	R133388
Zinc	0.113	mg/L		0.008	0.0001	E200.8	03/28/18 15:05 / sld			ICPMS205-H_180328A	49	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.283	mg/L		0.009	0.003	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Antimony	0.00044	mg/L	J	0.0005	0.00002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Arsenic	0.008	mg/L		0.001	0.00002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Barium	0.043	mg/L		0.003	0.00006	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Boron	0.064	mg/L	J	0.1	0.002	E200.7	03/27/18 17:50 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	133	40908
Cadmium	0.00051	mg/L		0.00003	0.00002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Calcium	47	mg/L		1	0.01	E200.7	03/27/18 17:50 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	133	40908
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Cobalt	0.00039	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:31 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	206	40908
Copper	0.035	mg/L		0.001	0.0003	E200.8	03/27/18 00:31 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	206	40908
Iron	0.62	mg/L		0.02	0.02	E200.8	03/27/18 00:31 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	206	40908
Lead	0.0030	mg/L		0.0003	0.00003	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Magnesium	13	mg/L		1	0.09	E200.7	03/27/18 17:50 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	133	40908
Manganese	0.236	mg/L		0.001	0.0002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Mercury	0.0000142	mg/L		5E-06	1E-06	E245.1	03/29/18 11:31 / PN	03/28/18 07:44	E245.1	HGCV202-H_180328A	48	40924
Molybdenum	0.005	mg/L		0.005	0.00003	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:31 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	206	40908
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 17:50 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	133	40908
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Silver	0.000064	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:31 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	206	40908
Sodium	28	mg/L		1	0.02	E200.7	03/27/18 17:50 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	133	40908
Uranium	0.0047	mg/L		0.0002	8E-06	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Vanadium	0.0022	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908
Zinc	0.127	mg/L		0.008	0.002	E200.8	03/27/18 17:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	169	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-007
Collection Date: 03/22/18 09:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	19	mg/L		1	0.3	A2540 D	03/26/18 14:26 / km			124 (14410200)_180326A	43	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	79	mg/L		4	0.7	A2320 B	03/26/18 15:49 / km			PHSC_101-H_180326A	77	R133328
Bicarbonate as HCO3	96	mg/L		4	0.7	A2320 B	03/26/18 15:49 / km			PHSC_101-H_180326A	77	R133328
Chloride	39	mg/L		1	0.003	E300.0	03/26/18 21:09 / SR			IC METROHM_180326A	40	R133379
Sulfate	57	mg/L		1	0.01	E300.0	03/26/18 21:09 / SR			IC METROHM_180326A	40	R133379
Hardness as CaCO3	136	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	7	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.63	mg/L		0.05	0.02	E350.1	03/26/18 14:15 / cm			FIA203-HE_180326B	21	R133359
Nitrogen, Nitrate+Nitrite as N	0.56	mg/L		0.02	0.007	E353.2	03/26/18 10:41 / cm			FIA203-HE_180326A	89	R133339
Nitrogen, Total	1.87	mg/L	D	0.06	0.02	A4500 N-C	03/30/18 09:22 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	14	40964
Phosphorus, Total as P	0.250	mg/L		0.003	0.0006	E365.1	03/27/18 14:14 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	63	40927
METALS, DISSOLVED												
Aluminum	0.020	mg/L		0.009	0.0007	E200.8	03/27/18 17:51 / sld			ICPMS205-H_180327A	170	R133388
Antimony	0.00036	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Arsenic	0.013	mg/L		0.001	0.00002	E200.8	03/27/18 17:51 / sld			ICPMS205-H_180327A	170	R133388
Barium	0.038	mg/L		0.003	0.00002	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Boron	0.048	mg/L	J	0.1	0.003	E200.7	03/26/18 15:41 / sld			ICP2-HE_180326A	110	R133366
Cadmium	0.00020	mg/L		0.00003	0.00002	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Calcium	40	mg/L		1	0.01	E200.7	03/26/18 15:41 / sld			ICP2-HE_180326A	110	R133366
Chromium	0.00011	mg/L	J	0.01	0.00003	E200.8	03/27/18 00:47 / sld			ICPMS205-H_180326C	213	R133370
Cobalt	0.00022	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:47 / sld			ICPMS205-H_180326C	213	R133370
Copper	0.018	mg/L		0.001	0.00004	E200.8	03/27/18 00:47 / sld			ICPMS205-H_180326C	213	R133370
Iron	0.12	mg/L		0.02	0.002	E200.8	03/27/18 00:47 / sld			ICPMS205-H_180326C	213	R133370
Lead	0.00025	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Magnesium	9	mg/L		1	0.05	E200.7	03/26/18 15:41 / sld			ICP2-HE_180326A	110	R133366
Manganese	0.163	mg/L		0.001	0.00003	E200.8	03/27/18 17:51 / sld			ICPMS205-H_180327A	170	R133388
Mercury	9.0E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 11:40 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	51	40904
Molybdenum	0.0037	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Nickel	0.00077	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:47 / sld			ICPMS205-H_180326C	213	R133370
Potassium	6	mg/L		1	0.05	E200.7	03/26/18 15:41 / sld			ICP2-HE_180326A	110	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-007
Collection Date: 03/22/18 09:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00026	mg/L	J	0.001	0.00003	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Silver	0.000019	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:47 / sld			ICPMS205-H_180326C	213	R133370
Sodium	21	mg/L		1	0.02	E200.7	03/26/18 15:41 / sld			ICP2-HE_180326A	110	R133366
Uranium	0.0032	mg/L		0.0002	3E-06	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:51 / sld			ICPMS205-H_180327A	170	R133388
Zinc	0.098	mg/L		0.008	0.0001	E200.8	03/28/18 15:07 / sld			ICPMS205-H_180328A	50	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.683	mg/L		0.009	0.003	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Antimony	0.0005	mg/L		0.0005	0.00002	E200.8	03/28/18 15:21 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	56	40908
Arsenic	0.014	mg/L		0.001	0.00002	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Barium	0.042	mg/L		0.003	0.00006	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Boron	0.044	mg/L	J	0.1	0.002	E200.7	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	134	40908
Cadmium	0.00045	mg/L		0.00003	0.00002	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Calcium	40	mg/L		1	0.01	E200.7	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	134	40908
Chromium	0.0007	mg/L	J	0.01	0.0002	E200.8	03/27/18 00:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	214	40908
Cobalt	0.00044	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	214	40908
Copper	0.029	mg/L		0.001	0.0003	E200.8	03/27/18 00:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	214	40908
Iron	0.84	mg/L		0.02	0.02	E200.8	03/27/18 00:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	214	40908
Lead	0.0026	mg/L		0.0003	0.00003	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Magnesium	9	mg/L		1	0.09	E200.7	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	134	40908
Manganese	0.208	mg/L		0.001	0.0002	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Mercury	0.0000216	mg/L		5E-06	1E-06	E245.1	03/29/18 11:43 / PN	03/28/18 07:44	E245.1	HGCV202-H_180328A	52	40924
Molybdenum	0.0035	mg/L	J	0.005	0.00003	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	214	40908
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	134	40908
Selenium	0.00029	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Silver	0.000095	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:49 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	214	40908
Sodium	20	mg/L		1	0.02	E200.7	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	134	40908
Uranium	0.0032	mg/L		0.0002	8E-06	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Vanadium	0.0029	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908
Zinc	0.114	mg/L		0.008	0.002	E200.8	03/27/18 17:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	171	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-008
Collection Date: 03/22/18 08:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	20	mg/L	D	2	0.3	A2540 D	03/26/18 14:27 / km			124 (14410200)_180326A	44	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	81	mg/L		4	0.7	A2320 B	03/26/18 15:54 / km			PHSC_101-H_180326A	79	R133328
Bicarbonate as HCO3	98	mg/L		4	0.7	A2320 B	03/26/18 15:54 / km			PHSC_101-H_180326A	79	R133328
Chloride	36	mg/L		1	0.003	E300.0	03/26/18 21:24 / SR			IC METROHM_180326A	41	R133379
Sulfate	53	mg/L		1	0.01	E300.0	03/26/18 21:24 / SR			IC METROHM_180326A	41	R133379
Hardness as CaCO3	135	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	8	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.68	mg/L		0.05	0.02	E350.1	03/26/18 14:16 / cm			FIA203-HE_180326B	22	R133359
Nitrogen, Nitrate+Nitrite as N	0.50	mg/L		0.02	0.007	E353.2	03/26/18 10:42 / cm			FIA203-HE_180326A	90	R133339
Nitrogen, Total	2.07	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:19 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	118	40919
Phosphorus, Total as P	0.270	mg/L		0.003	0.0006	E365.1	03/27/18 14:15 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	64	40927
METALS, DISSOLVED												
Aluminum	0.021	mg/L		0.009	0.0007	E200.8	03/27/18 17:56 / sld			ICPMS205-H_180327A	172	R133388
Antimony	0.00033	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
Arsenic	0.014	mg/L		0.001	0.00002	E200.8	03/27/18 17:56 / sld			ICPMS205-H_180327A	172	R133388
Barium	0.038	mg/L		0.003	0.00002	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
Boron	0.043	mg/L	J	0.1	0.003	E200.7	03/26/18 15:44 / sld			ICP2-HE_180326A	111	R133366
Cadmium	0.00019	mg/L		0.00003	0.00002	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
Calcium	38	mg/L		1	0.01	E200.7	03/26/18 15:44 / sld			ICP2-HE_180326A	111	R133366
Chromium	0.00011	mg/L	J	0.01	0.00003	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Cobalt	0.00022	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Copper	0.017	mg/L		0.001	0.00004	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Iron	0.13	mg/L		0.02	0.002	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Lead	0.00025	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
Magnesium	8	mg/L		1	0.05	E200.7	03/26/18 15:44 / sld			ICP2-HE_180326A	111	R133366
Manganese	0.160	mg/L		0.001	0.00003	E200.8	03/27/18 17:56 / sld			ICPMS205-H_180327A	172	R133388
Mercury	9.1E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 11:54 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	55	40904
Molybdenum	0.0034	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
Nickel	0.00079	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 15:44 / sld			ICP2-HE_180326A	111	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-008
Collection Date: 03/22/18 08:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00023	mg/L	J	0.001	0.00003	E200.8	03/29/18 15:58 / sld			ICPMS205-H_180329B	31	R133468
Silver	0.000018	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Sodium	20	mg/L		1	0.02	E200.7	03/26/18 15:44 / sld			ICP2-HE_180326A	111	R133366
Uranium	0.0030	mg/L		0.0002	3E-06	E200.8	03/27/18 00:51 / sld			ICPMS205-H_180326C	215	R133370
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	03/27/18 17:56 / sld			ICPMS205-H_180327A	172	R133388
Zinc	0.089	mg/L		0.008	0.0001	E200.8	03/28/18 15:23 / sld			ICPMS205-H_180328A	57	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.736	mg/L		0.009	0.003	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Antimony	0.0005	mg/L		0.0005	0.00002	E200.8	03/28/18 15:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	58	40908
Arsenic	0.015	mg/L		0.001	0.00002	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Barium	0.046	mg/L		0.003	0.00006	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Boron	0.046	mg/L	J	0.1	0.002	E200.7	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	135	40908
Cadmium	0.00044	mg/L		0.00003	0.00002	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Calcium	39	mg/L		1	0.01	E200.7	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	135	40908
Chromium	0.0007	mg/L	J	0.01	0.0002	E200.8	03/27/18 00:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	216	40908
Cobalt	0.00045	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	216	40908
Copper	0.027	mg/L		0.001	0.0003	E200.8	03/27/18 00:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	216	40908
Iron	0.84	mg/L		0.02	0.02	E200.8	03/27/18 00:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	216	40908
Lead	0.0028	mg/L		0.0003	0.00003	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Magnesium	9	mg/L		1	0.09	E200.7	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	135	40908
Manganese	0.213	mg/L		0.001	0.0002	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Mercury	0.0000148	mg/L		5E-06	1E-06	E245.1	03/29/18 11:57 / PN	03/28/18 07:44	E245.1	HGCV202-H_180328A	56	40924
Molybdenum	0.0036	mg/L	J	0.005	0.00003	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	216	40908
Potassium	7	mg/L		1	0.05	E200.7	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	135	40908
Selenium	0.00029	mg/L	J	0.001	0.00002	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Silver	0.000084	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:54 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	216	40908
Sodium	21	mg/L		1	0.02	E200.7	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	135	40908
Uranium	0.0032	mg/L		0.0002	8E-06	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Vanadium	0.0030	mg/L	J	0.1	0.00003	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908
Zinc	0.110	mg/L		0.008	0.002	E200.8	03/27/18 17:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	173	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-009
Collection Date: 03/21/18 17:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	13	mg/L	D	2	0.3	A2540 D	03/26/18 14:27 / km			124 (14410200)_180326A	45	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 15:59 / km			PHSC_101-H_180326A	81	R133328
Bicarbonate as HCO3	130	mg/L		4	0.7	A2320 B	03/26/18 15:59 / km			PHSC_101-H_180326A	81	R133328
Chloride	50	mg/L		1	0.003	E300.0	03/26/18 21:39 / SR			IC METROHM_180326A	42	R133379
Sulfate	78	mg/L		1	0.01	E300.0	03/26/18 21:39 / SR			IC METROHM_180326A	42	R133379
Hardness as CaCO3	187	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	9	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.54	mg/L		0.05	0.02	E350.1	03/26/18 14:21 / cm			FIA203-HE_180326B	26	R133359
Nitrogen, Nitrate+Nitrite as N	0.82	mg/L		0.02	0.007	E353.2	03/26/18 10:46 / cm			FIA203-HE_180326A	93	R133339
Nitrogen, Total	2.09	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:21 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	119	40919
Phosphorus, Total as P	0.228	mg/L		0.003	0.0006	E365.1	03/27/18 14:16 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	65	40927
METALS, DISSOLVED												
Aluminum	0.0081	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:09 / sld			ICPMS205-H_180327A	178	R133388
Antimony	0.00026	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Arsenic	0.011	mg/L		0.001	0.00002	E200.8	03/27/18 18:09 / sld			ICPMS205-H_180327A	178	R133388
Barium	0.045	mg/L		0.003	0.00002	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Boron	0.058	mg/L	J	0.1	0.003	E200.7	03/26/18 15:59 / sld			ICP2-HE_180326A	115	R133366
Cadmium	0.00027	mg/L		0.00003	0.00002	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Calcium	53	mg/L		1	0.01	E200.7	03/26/18 15:59 / sld			ICP2-HE_180326A	115	R133366
Chromium	0.00008	mg/L	J	0.01	0.00003	E200.8	03/27/18 00:56 / sld			ICPMS205-H_180326C	217	R133370
Cobalt	0.00027	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:56 / sld			ICPMS205-H_180326C	217	R133370
Copper	0.015	mg/L		0.001	0.00004	E200.8	03/27/18 00:56 / sld			ICPMS205-H_180326C	217	R133370
Iron	0.11	mg/L		0.02	0.002	E200.8	03/27/18 00:56 / sld			ICPMS205-H_180326C	217	R133370
Lead	0.00029	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Magnesium	12	mg/L		1	0.05	E200.7	03/26/18 15:59 / sld			ICP2-HE_180326A	115	R133366
Manganese	0.291	mg/L		0.001	0.00003	E200.8	03/27/18 18:09 / sld			ICPMS205-H_180327A	178	R133388
Mercury	8.6E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 12:00 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	57	40904
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Nickel	0.00098	mg/L	J	0.002	0.00003	E200.8	03/27/18 00:56 / sld			ICPMS205-H_180326C	217	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 15:59 / sld			ICP2-HE_180326A	115	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-009
Collection Date: 03/21/18 17:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00035	mg/L	J	0.001	0.00003	E200.8	03/29/18 16:00 / sld			ICPMS205-H_180329B	32	R133468
Silver	0.000010	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:56 / sld			ICPMS205-H_180326C	217	R133370
Sodium	28	mg/L		1	0.02	E200.7	03/26/18 15:59 / sld			ICP2-HE_180326A	115	R133366
Uranium	0.0047	mg/L		0.0002	3E-06	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	03/27/18 18:09 / sld			ICPMS205-H_180327A	178	R133388
Zinc	0.135	mg/L		0.008	0.0001	E200.8	03/28/18 15:27 / sld			ICPMS205-H_180328A	59	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.409	mg/L		0.009	0.003	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Antimony	0.00037	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:30 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	60	40908
Arsenic	0.012	mg/L		0.001	0.00002	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Barium	0.051	mg/L		0.003	0.00006	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Boron	0.056	mg/L	J	0.1	0.002	E200.7	03/27/18 18:01 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	136	40908
Cadmium	0.00054	mg/L		0.00003	0.00002	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Calcium	55	mg/L		1	0.01	E200.7	03/27/18 18:01 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	136	40908
Chromium	0.0005	mg/L	J	0.01	0.0002	E200.8	03/27/18 00:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	218	40908
Cobalt	0.00044	mg/L	J	0.01	0.00002	E200.8	03/27/18 00:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	218	40908
Copper	0.027	mg/L		0.001	0.0003	E200.8	03/27/18 00:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	218	40908
Iron	0.57	mg/L		0.02	0.02	E200.8	03/27/18 00:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	218	40908
Lead	0.0027	mg/L		0.0003	0.00003	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Magnesium	12	mg/L		1	0.09	E200.7	03/27/18 18:01 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	136	40908
Manganese	0.340	mg/L		0.001	0.0002	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Mercury	0.0000192	mg/L		5E-06	1E-06	E245.1	03/29/18 12:03 / PN	03/28/18 07:44	E245.1	HGCV202-H_180328A	58	40924
Molybdenum	0.0046	mg/L	J	0.005	0.00003	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 00:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	218	40908
Potassium	8	mg/L		1	0.05	E200.7	03/27/18 18:01 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	136	40908
Selenium	0.00037	mg/L	J	0.001	0.00002	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Silver	0.000067	mg/L	J	0.0002	8E-06	E200.8	03/27/18 00:58 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	218	40908
Sodium	29	mg/L		1	0.02	E200.7	03/27/18 18:01 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	136	40908
Uranium	0.0050	mg/L		0.0002	8E-06	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Vanadium	0.0027	mg/L	J	0.1	0.00003	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908
Zinc	0.158	mg/L		0.008	0.002	E200.8	03/27/18 18:11 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	179	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-010
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	15	mg/L		1	0.3	A2540 D	03/26/18 14:27 / km			124 (14410200)_180326A	46	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 16:04 / km			PHSC_101-H_180326A	83	R133328
Bicarbonate as HCO3	120	mg/L		4	0.7	A2320 B	03/26/18 16:04 / km			PHSC_101-H_180326A	83	R133328
Chloride	50	mg/L		1	0.003	E300.0	03/26/18 21:53 / SR			IC METROHM_180326A	43	R133379
Sulfate	82	mg/L		1	0.01	E300.0	03/26/18 21:53 / SR			IC METROHM_180326A	43	R133379
Hardness as CaCO3	187	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	10	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.59	mg/L		0.05	0.02	E350.1	03/26/18 14:24 / cm			FIA203-HE_180326B	29	R133359
Nitrogen, Nitrate+Nitrite as N	0.87	mg/L		0.02	0.007	E353.2	03/26/18 10:50 / cm			FIA203-HE_180326A	96	R133339
Nitrogen, Total	2.20	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:22 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	120	40919
Phosphorus, Total as P	0.212	mg/L		0.003	0.0006	E365.1	03/27/18 14:17 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	66	40927
METALS, DISSOLVED												
Aluminum	0.0078	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:14 / sld			ICPMS205-H_180327A	180	R133388
Antimony	0.00019	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Arsenic	0.010	mg/L		0.001	0.00002	E200.8	03/27/18 18:14 / sld			ICPMS205-H_180327A	180	R133388
Barium	0.039	mg/L		0.003	0.00002	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Boron	0.062	mg/L	J	0.1	0.003	E200.7	03/26/18 16:10 / sld			ICP2-HE_180326A	118	R133366
Cadmium	0.00025	mg/L		0.00003	0.00002	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Calcium	53	mg/L		1	0.01	E200.7	03/26/18 16:10 / sld			ICP2-HE_180326A	118	R133366
Chromium	0.00009	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:00 / sld			ICPMS205-H_180326C	219	R133370
Cobalt	0.00031	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:00 / sld			ICPMS205-H_180326C	219	R133370
Copper	0.016	mg/L		0.001	0.00004	E200.8	03/27/18 01:00 / sld			ICPMS205-H_180326C	219	R133370
Iron	0.12	mg/L		0.02	0.002	E200.8	03/27/18 01:00 / sld			ICPMS205-H_180326C	219	R133370
Lead	0.00026	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Magnesium	12	mg/L		1	0.05	E200.7	03/26/18 16:10 / sld			ICP2-HE_180326A	118	R133366
Manganese	0.300	mg/L		0.001	0.00003	E200.8	03/27/18 18:14 / sld			ICPMS205-H_180327A	180	R133388
Mercury	7.9E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 12:06 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	59	40904
Molybdenum	0.0039	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Nickel	0.0011	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:00 / sld			ICPMS205-H_180326C	219	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 16:10 / sld			ICP2-HE_180326A	118	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-010
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00027	mg/L	J	0.001	0.00003	E200.8	03/29/18 16:02 / sld			ICPMS205-H_180329B	33	R133468
Silver	9.5E-06	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:00 / sld			ICPMS205-H_180326C	219	R133370
Sodium	28	mg/L		1	0.02	E200.7	03/26/18 16:10 / sld			ICP2-HE_180326A	118	R133366
Uranium	0.0043	mg/L		0.0002	3E-06	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
Vanadium	0.0019	mg/L	J	0.1	0.00007	E200.8	03/27/18 18:14 / sld			ICPMS205-H_180327A	180	R133388
Zinc	0.125	mg/L		0.008	0.0001	E200.8	03/28/18 15:32 / sld			ICPMS205-H_180328A	61	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.400	mg/L		0.009	0.003	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Antimony	0.00031	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:34 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	62	40908
Arsenic	0.012	mg/L		0.001	0.00002	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Barium	0.052	mg/L		0.003	0.00006	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Boron	0.057	mg/L	J	0.1	0.002	E200.7	03/27/18 18:05 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	137	40908
Cadmium	0.00056	mg/L		0.00003	0.00002	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Calcium	54	mg/L		1	0.01	E200.7	03/27/18 18:05 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	137	40908
Chromium	0.0005	mg/L	J	0.01	0.0002	E200.8	03/27/18 01:03 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	220	40908
Cobalt	0.00047	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:03 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	220	40908
Copper	0.029	mg/L		0.001	0.0003	E200.8	03/27/18 01:03 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	220	40908
Iron	0.60	mg/L		0.02	0.02	E200.8	03/27/18 01:03 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	220	40908
Lead	0.0026	mg/L		0.0003	0.00003	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Magnesium	13	mg/L		1	0.09	E200.7	03/27/18 18:05 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	137	40908
Manganese	0.352	mg/L		0.001	0.0002	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Mercury	0.0000194	mg/L		5E-06	1E-06	E245.1	03/29/18 12:09 / PN	03/28/18 07:44	E245.1	HGCV202-H_180328A	60	40924
Molybdenum	0.0048	mg/L	J	0.005	0.00003	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:03 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	220	40908
Potassium	7	mg/L		1	0.05	E200.7	03/27/18 18:05 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	137	40908
Selenium	0.00035	mg/L	J	0.001	0.00002	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Silver	0.000057	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:03 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	220	40908
Sodium	29	mg/L		1	0.02	E200.7	03/27/18 18:05 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	137	40908
Uranium	0.0051	mg/L		0.0002	8E-06	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Vanadium	0.0028	mg/L	J	0.1	0.00003	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908
Zinc	0.168	mg/L		0.008	0.002	E200.8	03/27/18 18:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	181	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-011
Collection Date: 03/21/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	18	mg/L	D	2	0.3	A2540 D	03/26/18 14:27 / km			124 (14410200)_180326A	47	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 16:09 / km			PHSC_101-H_180326A	85	R133328
Bicarbonate as HCO3	130	mg/L		4	0.7	A2320 B	03/26/18 16:09 / km			PHSC_101-H_180326A	85	R133328
Chloride	48	mg/L		1	0.003	E300.0	03/26/18 22:08 / SR			IC METROHM_180326A	44	R133379
Sulfate	76	mg/L		1	0.01	E300.0	03/26/18 22:08 / SR			IC METROHM_180326A	44	R133379
Hardness as CaCO3	179	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	11	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.88	mg/L		0.05	0.02	E350.1	03/26/18 14:26 / cm			FIA203-HE_180326B	30	R133359
Nitrogen, Nitrate+Nitrite as N	0.73	mg/L		0.02	0.007	E353.2	03/26/18 10:51 / cm			FIA203-HE_180326A	97	R133339
Nitrogen, Total	2.51	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:23 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	121	40919
Phosphorus, Total as P	0.249	mg/L		0.003	0.0006	E365.1	03/27/18 14:18 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	67	40927
METALS, DISSOLVED												
Aluminum	0.0084	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:18 / sld			ICPMS205-H_180327A	182	R133388
Antimony	0.00028	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Arsenic	0.012	mg/L		0.001	0.00002	E200.8	03/27/18 18:18 / sld			ICPMS205-H_180327A	182	R133388
Barium	0.042	mg/L		0.003	0.00002	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Boron	0.062	mg/L	J	0.1	0.003	E200.7	03/26/18 16:14 / sld			ICP2-HE_180326A	119	R133366
Cadmium	0.00025	mg/L		0.00003	0.00002	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Calcium	50	mg/L		1	0.01	E200.7	03/26/18 16:14 / sld			ICP2-HE_180326A	119	R133366
Chromium	0.00009	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:14 / sld			ICPMS205-H_180326C	225	R133370
Cobalt	0.00029	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:14 / sld			ICPMS205-H_180326C	225	R133370
Copper	0.019	mg/L		0.001	0.00004	E200.8	03/27/18 01:14 / sld			ICPMS205-H_180326C	225	R133370
Iron	0.12	mg/L		0.02	0.002	E200.8	03/27/18 01:14 / sld			ICPMS205-H_180326C	225	R133370
Lead	0.0004	mg/L		0.0003	0.00001	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Magnesium	12	mg/L		1	0.05	E200.7	03/26/18 16:14 / sld			ICP2-HE_180326A	119	R133366
Manganese	0.273	mg/L		0.001	0.00003	E200.8	03/27/18 18:18 / sld			ICPMS205-H_180327A	182	R133388
Mercury	4.1E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 09:42 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	13	40905
Molybdenum	0.0041	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Nickel	0.0011	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:14 / sld			ICPMS205-H_180326C	225	R133370
Potassium	8	mg/L		1	0.05	E200.7	03/26/18 16:14 / sld			ICP2-HE_180326A	119	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-011
Collection Date: 03/21/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00023	mg/L	J	0.001	0.00003	E200.8	03/29/18 16:04 / sld			ICPMS205-H_180329B	34	R133468
Silver	0.000012	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:14 / sld			ICPMS205-H_180326C	225	R133370
Sodium	29	mg/L		1	0.02	E200.7	03/26/18 16:14 / sld			ICP2-HE_180326A	119	R133366
Uranium	0.0042	mg/L		0.0002	3E-06	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	03/27/18 18:18 / sld			ICPMS205-H_180327A	182	R133388
Zinc	0.133	mg/L		0.008	0.0001	E200.8	03/28/18 15:50 / sld			ICPMS205-H_180328A	69	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.572	mg/L		0.009	0.003	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Antimony	0.00044	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	70	40908
Arsenic	0.013	mg/L		0.001	0.00002	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Barium	0.050	mg/L		0.003	0.00006	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Boron	0.059	mg/L	J	0.1	0.002	E200.7	03/27/18 18:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	138	40908
Cadmium	0.00056	mg/L		0.00003	0.00002	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Calcium	51	mg/L		1	0.01	E200.7	03/27/18 18:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	138	40908
Chromium	0.0008	mg/L	J	0.01	0.0002	E200.8	03/27/18 01:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	226	40908
Cobalt	0.00051	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	226	40908
Copper	0.037	mg/L		0.001	0.0003	E200.8	03/27/18 01:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	226	40908
Iron	0.78	mg/L		0.02	0.02	E200.8	03/27/18 01:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	226	40908
Lead	0.0038	mg/L		0.0003	0.00003	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Magnesium	12	mg/L		1	0.09	E200.7	03/27/18 18:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	138	40908
Manganese	0.323	mg/L		0.001	0.0002	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Mercury	0.0000181	mg/L		5E-06	1E-06	E245.1	03/29/18 09:52 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	16	40905
Molybdenum	0.0045	mg/L	J	0.005	0.00003	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	226	40908
Potassium	8	mg/L		1	0.05	E200.7	03/27/18 18:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	138	40908
Selenium	0.00029	mg/L	J	0.001	0.00002	E200.8	03/28/18 15:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	70	40908
Silver	0.000099	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:16 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	226	40908
Sodium	29	mg/L		1	0.02	E200.7	03/27/18 18:09 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	138	40908
Uranium	0.0044	mg/L		0.0002	8E-06	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Vanadium	0.0028	mg/L	J	0.1	0.00003	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908
Zinc	0.172	mg/L		0.008	0.002	E200.8	03/27/18 18:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	183	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-012
Collection Date: 03/21/18 12:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	03/26/18 14:28 / km			124 (14410200)_180326A	48	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	0.7	A2320 B	03/26/18 16:15 / km			PHSC_101-H_180326A	87	R133328
Bicarbonate as HCO3	2	mg/L	J	4	0.7	A2320 B	03/26/18 16:15 / km			PHSC_101-H_180326A	87	R133328
Chloride	0.10	mg/L	J	1	0.003	E300.0	03/26/18 22:23 / SR			IC METROHM_180326A	45	R133379
Sulfate	ND	mg/L		1	0.01	E300.0	03/26/18 22:23 / SR			IC METROHM_180326A	45	R133379
Hardness as CaCO3	2	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	12	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	03/26/18 14:27 / cm			FIA203-HE_180326B	31	R133359
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.007	E353.2	03/26/18 10:52 / cm			FIA203-HE_180326A	98	R133339
Nitrogen, Total	ND	mg/L		0.05	0.01	A4500 N-C	03/30/18 09:23 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	15	40964
Phosphorus, Total as P	ND	mg/L		0.003	0.0006	E365.1	03/27/18 14:19 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	68	40927
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.0007	E200.8	03/27/18 18:40 / sld			ICPMS205-H_180327A	192	R133388
Antimony	ND	mg/L		0.0005	0.00002	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
Arsenic	ND	mg/L		0.001	0.00002	E200.8	03/27/18 18:40 / sld			ICPMS205-H_180327A	192	R133388
Barium	0.008	mg/L		0.003	0.00002	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
Boron	ND	mg/L		0.1	0.003	E200.7	03/26/18 16:18 / sld			ICP2-HE_180326A	120	R133366
Cadmium	ND	mg/L		0.00003	0.00002	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
Calcium	0.37	mg/L	J	1	0.01	E200.7	03/26/18 16:18 / sld			ICP2-HE_180326A	120	R133366
Chromium	ND	mg/L		0.01	0.00003	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Cobalt	ND	mg/L		0.01	0.00002	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Copper	0.00008	mg/L	J	0.001	0.00004	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Iron	0.007	mg/L	J	0.02	0.002	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Lead	ND	mg/L		0.0003	0.00001	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
Magnesium	0.013	mg/L	J	1	0.005	E200.7	03/26/18 16:18 / sld			ICP2-HE_180326A	120	R133366
Manganese	0.00010	mg/L	J	0.001	0.00003	E200.8	03/27/18 18:40 / sld			ICPMS205-H_180327A	192	R133388
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 10:01 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	19	40905
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
Nickel	ND	mg/L		0.002	0.00003	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Potassium	ND	mg/L		1	0.05	E200.7	03/26/18 16:18 / sld			ICP2-HE_180326A	120	R133366

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-012
Collection Date: 03/21/18 12:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00003	E200.8	03/29/18 16:07 / sld			ICPMS205-H_180329B	35	R133468
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Sodium	ND	mg/L		1	0.02	E200.7	03/26/18 16:18 / sld			ICP2-HE_180326A	120	R133366
Uranium	ND	mg/L		0.0002	3E-06	E200.8	03/27/18 01:18 / sld			ICPMS205-H_180326C	227	R133370
Vanadium	ND	mg/L		0.1	0.00007	E200.8	03/27/18 18:40 / sld			ICPMS205-H_180327A	192	R133388
Zinc	0.030	mg/L		0.008	0.0001	E200.8	03/28/18 15:54 / sld			ICPMS205-H_180328A	71	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	ND	mg/L		0.009	0.003	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Antimony	0.00005	mg/L	J	0.0005	0.00002	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Arsenic	ND	mg/L		0.001	0.00002	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Barium	ND	mg/L		0.003	0.00006	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Boron	ND	mg/L		0.1	0.002	E200.7	03/27/18 19:06 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	153	40908
Cadmium	ND	mg/L		0.00003	0.00002	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Calcium	0.58	mg/L	J	1	0.01	E200.7	03/27/18 19:06 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	153	40908
Chromium	ND	mg/L		0.01	0.0002	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Cobalt	ND	mg/L		0.01	0.00002	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Copper	ND	mg/L		0.001	0.0003	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Iron	ND	mg/L		0.02	0.02	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Lead	ND	mg/L		0.0003	0.00003	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Magnesium	0.023	mg/L	J	1	0.009	E200.7	03/27/18 19:06 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	153	40908
Manganese	ND	mg/L		0.001	0.0002	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 10:04 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	20	40905
Molybdenum	ND	mg/L		0.005	0.00003	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Potassium	ND	mg/L		1	0.05	E200.7	03/27/18 19:06 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	153	40908
Selenium	ND	mg/L		0.001	0.00002	E200.8	03/28/18 15:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	72	40908
Silver	0.000012	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Sodium	ND	mg/L		1	0.02	E200.7	03/27/18 19:06 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	153	40908
Uranium	ND	mg/L		0.0002	8E-06	E200.8	03/27/18 01:20 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	228	40908
Vanadium	ND	mg/L		0.1	0.00003	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908
Zinc	0.002	mg/L	J	0.008	0.002	E200.8	03/27/18 18:42 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	193	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-013
Collection Date: 03/21/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	19	mg/L	D	2	0.3	A2540 D	03/26/18 14:29 / km			124 (14410200)_180326A	51	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/26/18 16:21 / km			PHSC_101-H_180326A	89	R133328
Bicarbonate as HCO3	120	mg/L		4	0.7	A2320 B	03/26/18 16:21 / km			PHSC_101-H_180326A	89	R133328
Chloride	39	mg/L		1	0.003	E300.0	03/26/18 23:50 / SR			IC METROHM_180326A	50	R133379
Sulfate	66	mg/L		1	0.01	E300.0	03/26/18 23:50 / SR			IC METROHM_180326A	50	R133379
Hardness as CaCO3	163	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	13	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.72	mg/L		0.05	0.02	E350.1	03/26/18 14:28 / cm			FIA203-HE_180326B	32	R133359
Nitrogen, Nitrate+Nitrite as N	0.59	mg/L		0.02	0.007	E353.2	03/26/18 10:53 / cm			FIA203-HE_180326A	99	R133339
Nitrogen, Total	2.08	mg/L	D	0.06	0.02	A4500 N-C	03/27/18 11:24 / cm	03/27/18 08:27	A4500 N-	FIA203-HE_180327A	122	40919
Phosphorus, Total as P	0.216	mg/L		0.003	0.0006	E365.1	03/27/18 14:21 / cm	03/27/18 12:42	E365.1	FIA202-HE_180327A	69	40927
METALS, DISSOLVED												
Aluminum	0.0067	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:45 / sld			ICPMS205-H_180327A	194	R133388
Antimony	0.00020	mg/L	J	0.0005	0.00002	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Arsenic	0.010	mg/L		0.001	0.00002	E200.8	03/27/18 18:45 / sld			ICPMS205-H_180327A	194	R133388
Barium	0.036	mg/L		0.003	0.00002	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Boron	0.053	mg/L	J	0.1	0.003	E200.7	03/26/18 16:22 / sld			ICP2-HE_180326A	121	R133366
Cadmium	0.00020	mg/L		0.00003	0.00002	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Calcium	46	mg/L		1	0.01	E200.7	03/26/18 16:22 / sld			ICP2-HE_180326A	121	R133366
Chromium	0.00009	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:23 / sld			ICPMS205-H_180326C	229	R133370
Cobalt	0.00046	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:23 / sld			ICPMS205-H_180326C	229	R133370
Copper	0.016	mg/L		0.001	0.00004	E200.8	03/27/18 01:23 / sld			ICPMS205-H_180326C	229	R133370
Iron	0.08	mg/L		0.02	0.002	E200.8	03/27/18 01:23 / sld			ICPMS205-H_180326C	229	R133370
Lead	0.00029	mg/L	J	0.0003	0.00001	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Magnesium	11	mg/L		1	0.05	E200.7	03/26/18 16:22 / sld			ICP2-HE_180326A	121	R133366
Manganese	0.202	mg/L		0.001	0.00003	E200.8	03/27/18 18:45 / sld			ICPMS205-H_180327A	194	R133388
Mercury	3.7E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 10:07 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	21	40905
Molybdenum	0.0032	mg/L	J	0.005	0.00002	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Nickel	0.00084	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:23 / sld			ICPMS205-H_180326C	229	R133370
Potassium	6	mg/L		1	0.05	E200.7	03/26/18 16:22 / sld			ICP2-HE_180326A	121	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-013
Collection Date: 03/21/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00030	mg/L	J	0.001	0.00003	E200.8	03/29/18 16:09 / sld			ICPMS205-H_180329B	36	R133468
Silver	0.000011	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:23 / sld			ICPMS205-H_180326C	229	R133370
Sodium	24	mg/L		1	0.02	E200.7	03/26/18 16:22 / sld			ICP2-HE_180326A	121	R133366
Uranium	0.0034	mg/L		0.0002	3E-06	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
Vanadium	0.0015	mg/L	J	0.1	0.00007	E200.8	03/27/18 18:45 / sld			ICPMS205-H_180327A	194	R133388
Zinc	0.102	mg/L		0.008	0.0001	E200.8	03/28/18 15:58 / sld			ICPMS205-H_180328A	73	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.525	mg/L		0.009	0.003	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Antimony	0.00048	mg/L	J	0.0005	0.00002	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Arsenic	0.011	mg/L		0.001	0.00002	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Barium	0.044	mg/L		0.003	0.00006	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Boron	0.054	mg/L	J	0.1	0.002	E200.7	03/27/18 19:10 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	154	40908
Cadmium	0.00044	mg/L		0.00003	0.00002	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Calcium	47	mg/L		1	0.01	E200.7	03/27/18 19:10 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	154	40908
Chromium	0.0007	mg/L	J	0.01	0.0002	E200.8	03/27/18 01:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	230	40908
Cobalt	0.00062	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	230	40908
Copper	0.029	mg/L		0.001	0.0003	E200.8	03/27/18 01:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	230	40908
Iron	0.66	mg/L		0.02	0.02	E200.8	03/27/18 01:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	230	40908
Lead	0.0030	mg/L		0.0003	0.00003	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Magnesium	11	mg/L		1	0.09	E200.7	03/27/18 19:10 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	154	40908
Manganese	0.248	mg/L		0.001	0.0002	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Mercury	0.0000157	mg/L		5E-06	1E-06	E245.1	03/29/18 10:10 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	22	40905
Molybdenum	0.0035	mg/L	J	0.005	0.00003	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	230	40908
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 19:10 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	154	40908
Selenium	0.00033	mg/L	J	0.001	0.00002	E200.8	03/28/18 16:01 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	74	40908
Silver	0.000071	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:25 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	230	40908
Sodium	24	mg/L		1	0.02	E200.7	03/27/18 19:10 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	154	40908
Uranium	0.0036	mg/L		0.0002	8E-06	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Vanadium	0.0024	mg/L	J	0.1	0.00003	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908
Zinc	0.134	mg/L		0.008	0.002	E200.8	03/27/18 18:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	195	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-014
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	24	mg/L		1	0.3	A2540 D	03/26/18 14:29 / km			124 (14410200)_180326A	53	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	98	mg/L		4	0.7	A2320 B	03/26/18 16:26 / km			PHSC_101-H_180326A	91	R133328
Bicarbonate as HCO3	120	mg/L		4	0.7	A2320 B	03/26/18 16:26 / km			PHSC_101-H_180326A	91	R133328
Chloride	45	mg/L		1	0.003	E300.0	03/27/18 00:05 / SR			IC METROHM_180326A	51	R133379
Sulfate	67	mg/L		1	0.01	E300.0	03/27/18 00:05 / SR			IC METROHM_180326A	51	R133379
Hardness as CaCO3	168	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	14	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.74	mg/L		0.05	0.02	E350.1	03/26/18 14:29 / cm			FIA203-HE_180326B	33	R133359
Nitrogen, Nitrate+Nitrite as N	0.67	mg/L		0.02	0.007	E353.2	03/26/18 10:54 / cm			FIA203-HE_180326A	100	R133339
Nitrogen, Total	2.18	mg/L	D	0.06	0.02	A4500 N-C	03/30/18 09:27 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	18	40964
Phosphorus, Total as P	0.267	mg/L		0.003	0.0006	E365.1	03/27/18 14:26 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	74	40928
METALS, DISSOLVED												
Aluminum	0.0075	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:49 / sld			ICPMS205-H_180327A	196	R133388
Antimony	0.00027	mg/L	J	0.0005	0.00002	E200.8	03/28/18 16:03 / sld			ICPMS205-H_180328A	75	R133435
Arsenic	0.012	mg/L		0.001	0.00002	E200.8	03/27/18 18:49 / sld			ICPMS205-H_180327A	196	R133388
Barium	0.038	mg/L		0.003	0.00002	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 16:03 / sld			ICPMS205-H_180328A	75	R133435
Boron	0.062	mg/L	J	0.1	0.003	E200.7	03/26/18 16:26 / sld			ICP2-HE_180326A	122	R133366
Cadmium	0.00022	mg/L		0.00003	0.00002	E200.8	03/28/18 16:03 / sld			ICPMS205-H_180328A	75	R133435
Calcium	47	mg/L		1	0.01	E200.7	03/26/18 16:26 / sld			ICP2-HE_180326A	122	R133366
Chromium	0.00008	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Cobalt	0.00032	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Copper	0.017	mg/L		0.001	0.00004	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Iron	0.10	mg/L		0.02	0.002	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Lead	0.0004	mg/L		0.0003	0.00001	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Magnesium	11	mg/L		1	0.05	E200.7	03/26/18 16:26 / sld			ICP2-HE_180326A	122	R133366
Manganese	0.225	mg/L		0.001	0.00003	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Mercury	5.5E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 10:20 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	25	40905
Molybdenum	0.0037	mg/L	J	0.005	0.00002	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Nickel	0.00089	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 16:26 / sld			ICP2-HE_180326A	122	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-014
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00024	mg/L	J	0.001	0.00003	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Silver	0.000015	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Sodium	25	mg/L		1	0.02	E200.7	03/26/18 16:26 / sld			ICP2-HE_180326A	122	R133366
Uranium	0.0036	mg/L		0.0002	3E-06	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Vanadium	0.0016	mg/L	J	0.1	0.00007	E200.8	03/27/18 01:45 / sld			ICPMS205-H_180326C	239	R133370
Zinc	0.109	mg/L		0.008	0.0001	E200.8	03/28/18 16:03 / sld			ICPMS205-H_180328A	75	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.672	mg/L		0.009	0.003	E200.8	03/27/18 18:51 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	197	40908
Antimony	0.00042	mg/L	J	0.0005	0.00002	E200.8	03/28/18 16:05 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	76	40908
Arsenic	0.014	mg/L		0.001	0.00002	E200.8	03/28/18 16:05 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	76	40908
Barium	0.047	mg/L		0.003	0.00006	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:51 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	197	40908
Boron	0.063	mg/L	J	0.1	0.002	E200.7	03/27/18 19:13 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	155	40908
Cadmium	0.00053	mg/L		0.00003	0.00002	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Calcium	48	mg/L		1	0.01	E200.7	03/27/18 19:13 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	155	40908
Chromium	0.0007	mg/L	J	0.01	0.0002	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Cobalt	0.00059	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Copper	0.035	mg/L		0.001	0.0003	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Iron	0.83	mg/L		0.02	0.02	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Lead	0.0039	mg/L		0.0003	0.00003	E200.8	03/27/18 18:51 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	197	40908
Magnesium	12	mg/L		1	0.09	E200.7	03/27/18 19:13 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	155	40908
Manganese	0.296	mg/L		0.001	0.0002	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Mercury	0.0000267	mg/L		5E-06	1E-06	E245.1	03/29/18 10:23 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	26	40905
Molybdenum	0.0038	mg/L	J	0.005	0.00003	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Potassium	7	mg/L		1	0.05	E200.7	03/27/18 19:13 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	155	40908
Selenium	0.00030	mg/L	J	0.001	0.00002	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Silver	0.000091	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Sodium	25	mg/L		1	0.02	E200.7	03/27/18 19:13 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	155	40908
Uranium	0.0036	mg/L		0.0002	8E-06	E200.8	03/27/18 18:51 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	197	40908
Vanadium	0.0029	mg/L	J	0.1	0.00003	E200.8	03/27/18 01:47 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	240	40908
Zinc	0.146	mg/L		0.008	0.002	E200.8	03/27/18 18:51 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	197	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-015
Collection Date: 03/21/18 09:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	37	mg/L	D	2	0.3	A2540 D	03/26/18 14:29 / km			124 (14410200)_180326A	54	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	93	mg/L		4	0.7	A2320 B	03/26/18 16:31 / km			PHSC_101-H_180326A	93	R133328
Bicarbonate as HCO3	110	mg/L		4	0.7	A2320 B	03/26/18 16:31 / km			PHSC_101-H_180326A	93	R133328
Chloride	37	mg/L		1	0.003	E300.0	03/27/18 00:19 / SR			IC METROHM_180326A	52	R133379
Sulfate	68	mg/L		1	0.01	E300.0	03/27/18 00:19 / SR			IC METROHM_180326A	52	R133379
Hardness as CaCO3	157	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	15	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.50	mg/L		0.05	0.02	E350.1	03/26/18 14:30 / cm			FIA203-HE_180326B	34	R133359
Nitrogen, Nitrate+Nitrite as N	0.72	mg/L		0.02	0.007	E353.2	03/26/18 10:56 / cm			FIA203-HE_180326A	101	R133339
Nitrogen, Total	1.93	mg/L	D	0.06	0.02	A4500 N-C	03/30/18 09:28 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	19	40964
Phosphorus, Total as P	0.287	mg/L		0.003	0.0006	E365.1	03/27/18 14:29 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	77	40928
METALS, DISSOLVED												
Aluminum	0.0077	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:54 / sld			ICPMS205-H_180327A	198	R133388
Antimony	0.00028	mg/L	J	0.0005	0.00002	E200.8	03/28/18 16:22 / sld			ICPMS205-H_180328A	83	R133435
Arsenic	0.012	mg/L		0.001	0.00002	E200.8	03/27/18 18:54 / sld			ICPMS205-H_180327A	198	R133388
Barium	0.035	mg/L		0.003	0.00002	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 16:22 / sld			ICPMS205-H_180328A	83	R133435
Boron	0.047	mg/L	J	0.1	0.003	E200.7	03/26/18 16:29 / sld			ICP2-HE_180326A	123	R133366
Cadmium	0.00027	mg/L		0.00003	0.00002	E200.8	03/28/18 16:22 / sld			ICPMS205-H_180328A	83	R133435
Calcium	44	mg/L		1	0.01	E200.7	03/26/18 16:29 / sld			ICP2-HE_180326A	123	R133366
Chromium	0.00008	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Cobalt	0.00030	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Copper	0.019	mg/L		0.001	0.00004	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Iron	0.08	mg/L		0.02	0.002	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Lead	0.00029	mg/L	J	0.0003	0.00001	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Magnesium	10	mg/L		1	0.05	E200.7	03/26/18 16:29 / sld			ICP2-HE_180326A	123	R133366
Manganese	0.146	mg/L		0.001	0.00003	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Mercury	5.7E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 10:26 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	27	40905
Molybdenum	0.0036	mg/L	J	0.005	0.00002	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Nickel	0.00086	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 16:29 / sld			ICP2-HE_180326A	123	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-015
Collection Date: 03/21/18 09:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00024	mg/L	J	0.001	0.00003	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Silver	0.000016	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Sodium	25	mg/L		1	0.02	E200.7	03/26/18 16:29 / sld			ICP2-HE_180326A	123	R133366
Uranium	0.0034	mg/L		0.0002	3E-06	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	03/27/18 01:49 / sld			ICPMS205-H_180326C	241	R133370
Zinc	0.113	mg/L		0.008	0.0001	E200.8	03/28/18 16:22 / sld			ICPMS205-H_180328A	83	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	1.13	mg/L		0.009	0.003	E200.7	03/27/18 19:17 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	156	40908
Antimony	0.0005	mg/L		0.0005	0.00002	E200.8	03/28/18 16:24 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	84	40908
Arsenic	0.015	mg/L		0.001	0.00002	E200.8	03/27/18 18:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	199	40908
Barium	0.048	mg/L		0.003	0.00006	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 18:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	199	40908
Boron	0.049	mg/L	J	0.1	0.002	E200.7	03/27/18 19:17 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	156	40908
Cadmium	0.00065	mg/L		0.00003	0.00002	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Calcium	45	mg/L		1	0.01	E200.7	03/27/18 19:17 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	156	40908
Chromium	0.0010	mg/L	J	0.01	0.0002	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Cobalt	0.00070	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Copper	0.040	mg/L		0.001	0.0003	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Iron	1.11	mg/L		0.02	0.02	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Lead	0.0051	mg/L		0.0003	0.00003	E200.8	03/27/18 18:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	199	40908
Magnesium	11	mg/L		1	0.09	E200.7	03/27/18 19:17 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	156	40908
Manganese	0.263	mg/L		0.001	0.0002	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Mercury	0.0000338	mg/L		5E-06	1E-06	E245.1	03/29/18 10:29 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	28	40905
Molybdenum	0.0037	mg/L	J	0.005	0.00003	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Potassium	7	mg/L		1	0.05	E200.7	03/27/18 19:17 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	156	40908
Selenium	0.00027	mg/L	J	0.001	0.00002	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Silver	0.00011	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Sodium	25	mg/L		1	0.02	E200.7	03/27/18 19:17 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	156	40908
Uranium	0.0035	mg/L		0.0002	8E-06	E200.8	03/27/18 18:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	199	40908
Vanadium	0.0035	mg/L	J	0.1	0.00003	E200.8	03/27/18 01:52 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	242	40908
Zinc	0.168	mg/L		0.008	0.002	E200.8	03/27/18 18:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	199	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-016
Collection Date: 03/21/18 08:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	39	mg/L	D	2	0.3	A2540 D	03/26/18 14:30 / km			124 (14410200)_180326A	55	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	95	mg/L		4	0.7	A2320 B	03/26/18 16:36 / km			PHSC_101-H_180326A	95	R133328
Bicarbonate as HCO3	120	mg/L		4	0.7	A2320 B	03/26/18 16:36 / km			PHSC_101-H_180326A	95	R133328
Chloride	36	mg/L		1	0.003	E300.0	03/27/18 00:34 / SR			IC METROHM_180326A	53	R133379
Sulfate	69	mg/L		1	0.01	E300.0	03/27/18 00:34 / SR			IC METROHM_180326A	53	R133379
Hardness as CaCO3	159	mg/L		1	1	A2340 B	04/04/18 08:38 / sld			WATERCALC_180404A	16	R133581
NUTRIENTS												
Nitrogen, Ammonia as N	0.45	mg/L		0.05	0.02	E350.1	03/26/18 14:31 / cm			FIA203-HE_180326B	35	R133359
Nitrogen, Nitrate+Nitrite as N	0.77	mg/L		0.02	0.007	E353.2	03/26/18 10:57 / cm			FIA203-HE_180326A	102	R133339
Nitrogen, Total	1.92	mg/L	D	0.06	0.02	A4500 N-C	03/30/18 09:29 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	20	40964
Phosphorus, Total as P	0.280	mg/L		0.003	0.0006	E365.1	03/27/18 14:30 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	78	40928
METALS, DISSOLVED												
Aluminum	0.0070	mg/L	J	0.009	0.0007	E200.8	03/27/18 18:58 / sld			ICPMS205-H_180327A	200	R133388
Antimony	0.00027	mg/L	J	0.0005	0.00002	E200.8	03/28/18 16:26 / sld			ICPMS205-H_180328A	85	R133435
Arsenic	0.009	mg/L		0.001	0.00002	E200.8	03/27/18 18:58 / sld			ICPMS205-H_180327A	200	R133388
Barium	0.037	mg/L		0.003	0.00002	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 16:26 / sld			ICPMS205-H_180328A	85	R133435
Boron	0.051	mg/L	J	0.1	0.003	E200.7	03/26/18 16:33 / sld			ICP2-HE_180326A	124	R133366
Cadmium	0.00027	mg/L		0.00003	0.00002	E200.8	03/28/18 16:26 / sld			ICPMS205-H_180328A	85	R133435
Calcium	45	mg/L		1	0.01	E200.7	03/26/18 16:33 / sld			ICP2-HE_180326A	124	R133366
Chromium	0.00009	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Cobalt	0.00026	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Copper	0.019	mg/L		0.001	0.00004	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Iron	0.08	mg/L		0.02	0.002	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Lead	0.00026	mg/L	J	0.0003	0.00001	E200.8	03/28/18 16:26 / sld			ICPMS205-H_180328A	85	R133435
Magnesium	10	mg/L		1	0.05	E200.7	03/26/18 16:33 / sld			ICP2-HE_180326A	124	R133366
Manganese	0.121	mg/L		0.001	0.00003	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Mercury	5.5E-06	mg/L		5E-06	1E-06	E245.1	03/29/18 10:32 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	29	40905
Molybdenum	0.0037	mg/L	J	0.005	0.00002	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Nickel	0.00089	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 16:33 / sld			ICP2-HE_180326A	124	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-016
Collection Date: 03/21/18 08:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00022	mg/L	J	0.001	0.00003	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Silver	0.000014	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Sodium	25	mg/L		1	0.02	E200.7	03/26/18 16:33 / sld			ICP2-HE_180326A	124	R133366
Uranium	0.0028	mg/L		0.0002	3E-06	E200.8	03/27/18 18:58 / sld			ICPMS205-H_180327A	200	R133388
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	03/27/18 01:54 / sld			ICPMS205-H_180326C	243	R133370
Zinc	0.108	mg/L		0.008	0.0001	E200.8	03/28/18 16:26 / sld			ICPMS205-H_180328A	85	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	1.33	mg/L		0.009	0.003	E200.7	03/27/18 19:21 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	157	40908
Antimony	0.00037	mg/L	J	0.0005	0.00002	E200.8	03/27/18 19:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	201	40908
Arsenic	0.015	mg/L		0.001	0.00002	E200.8	03/28/18 16:29 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	86	40908
Barium	0.053	mg/L		0.003	0.00006	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 19:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	201	40908
Boron	0.047	mg/L	J	0.1	0.002	E200.7	03/27/18 19:21 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	157	40908
Cadmium	0.00073	mg/L		0.00003	0.00002	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Calcium	46	mg/L		1	0.01	E200.7	03/27/18 19:21 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	157	40908
Chromium	0.0012	mg/L	J	0.01	0.0002	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Cobalt	0.00073	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Copper	0.042	mg/L		0.001	0.0003	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Iron	1.26	mg/L		0.02	0.02	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Lead	0.0041	mg/L		0.0003	0.00003	E200.8	03/27/18 19:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	201	40908
Magnesium	11	mg/L		1	0.09	E200.7	03/27/18 19:21 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	157	40908
Manganese	0.246	mg/L		0.001	0.0002	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Mercury	0.0000366	mg/L		5E-06	1E-06	E245.1	03/29/18 10:35 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	30	40905
Molybdenum	0.0037	mg/L	J	0.005	0.00003	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Potassium	7	mg/L		1	0.05	E200.7	03/27/18 19:21 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	157	40908
Selenium	0.00030	mg/L	J	0.001	0.00002	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Silver	0.00011	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Sodium	25	mg/L		1	0.02	E200.7	03/27/18 19:21 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	157	40908
Uranium	0.0028	mg/L		0.0002	8E-06	E200.8	03/27/18 19:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	201	40908
Vanadium	0.0040	mg/L	J	0.1	0.00003	E200.8	03/27/18 01:56 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	244	40908
Zinc	0.176	mg/L		0.008	0.002	E200.8	03/28/18 16:29 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180328A	86	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-017
Collection Date: 03/22/18 14:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	59.2	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	1	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	5.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	1	R133713
3050 EXTRACTABLE METALS												
Aluminum	14900	mg/kg-dry		10	10	SW6010B	04/03/18 16:05 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	113	40967
Antimony	1.0	mg/kg-dry	J	5	0.2	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Arsenic	104	mg/kg-dry		5	1	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Barium	656	mg/kg-dry		5	0.8	SW6010B	04/03/18 16:05 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	113	40967
Beryllium	0.5	mg/kg-dry	J	5	0.4	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Boron	11	mg/kg-dry		5	2	SW6020	04/04/18 13:44 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180404B	38	40967
Cadmium	9.8	mg/kg-dry		0.2	0.1	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Chromium	69	mg/kg-dry		5	1	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Cobalt	29	mg/kg-dry		5	0.1	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Copper	674	mg/kg-dry		5	4	SW6010B	04/03/18 16:05 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	113	40967
Iron	32800	mg/kg-dry	D	90	90	SW6010B	04/03/18 16:05 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	113	40967
Lead	353	mg/kg-dry		5	0.2	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Manganese	14100	mg/kg-dry		5	1	SW6010B	04/03/18 16:05 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	113	40967
Molybdenum	13	mg/kg-dry		5	0.2	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Nickel	47	mg/kg-dry		5	0.3	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Selenium	1.8	mg/kg-dry	J	5	0.5	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Silver	4	mg/kg-dry	J	5	1	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Uranium	4.7	mg/kg-dry	J	5	0.2	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Vanadium	77	mg/kg-dry		1	0.4	SW6020	04/03/18 18:41 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	55	40967
Zinc	1830	mg/kg-dry		5	1	SW6010B	04/03/18 16:05 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	113	40967
METALS, TOTAL												
Mercury	0.78	mg/kg-dry		0.10	0.00025	SW7471B	04/05/18 12:10 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	13	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-018
Collection Date: 03/22/18 14:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.9	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	1	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	54.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	2	R133713
3050 EXTRACTABLE METALS												
Aluminum	3840	mg/kg-dry		6	6	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
Antimony	0.76	mg/kg-dry	J	5	0.08	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Arsenic	22	mg/kg-dry		5	0.6	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Barium	110	mg/kg-dry		5	0.4	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/12/18 00:02 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	99	41018
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
Cadmium	0.9	mg/kg-dry		0.2	0.06	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Chromium	10	mg/kg-dry		5	0.6	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Cobalt	5.0	mg/kg-dry	J	5	0.07	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Copper	108	mg/kg-dry		5	2	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
Iron	10200	mg/kg-dry	D	50	50	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
Lead	67	mg/kg-dry		5	0.09	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Manganese	1940	mg/kg-dry		5	0.5	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
Molybdenum	1.2	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Nickel	4.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Silver	0.9	mg/kg-dry	J	5	0.5	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Uranium	1.3	mg/kg-dry	J	5	0.09	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Vanadium	18	mg/kg-dry		1	0.2	SW6020	04/10/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	65	41018
Zinc	419	mg/kg-dry		5	0.6	SW6010B	04/06/18 16:34 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	56	41018
METALS, TOTAL												
Mercury	0.08	mg/kg-dry	J	0.10	0.00013	SW7471B	04/05/18 12:12 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	14	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-019
Collection Date: 03/22/18 14:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.5	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	: 2	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	29.3	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 3	R133713
3050 EXTRACTABLE METALS												
Aluminum	4590	mg/kg-dry		6	6	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
Antimony	0.79	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Arsenic	82	mg/kg-dry		5	0.6	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Barium	148	mg/kg-dry		5	0.4	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Boron	6	mg/kg-dry		5	1	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
Cadmium	0.7	mg/kg-dry		0.2	0.06	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Chromium	6	mg/kg-dry		5	0.6	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Cobalt	4.6	mg/kg-dry	J	5	0.07	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Copper	238	mg/kg-dry		5	2	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
Iron	7790	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
Lead	227	mg/kg-dry		5	0.08	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Manganese	2390	mg/kg-dry		5	0.5	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
Molybdenum	2.1	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Nickel	4.4	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Silver	0.7	mg/kg-dry	J	5	0.5	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Uranium	1.6	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Vanadium	16	mg/kg-dry		1	0.2	SW6020	04/10/18 17:40 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 95	41015
Zinc	291	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:08 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 97	41015
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.00013	SW7471B	04/05/18 12:20 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	: 18	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-020
Collection Date: 03/22/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	65.6	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	4	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	4	R133713
3050 EXTRACTABLE METALS												
Aluminum	14200	mg/kg-dry		10	10	SW6010B	04/03/18 16:08 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	114	40967
Antimony	0.8	mg/kg-dry	J	5	0.2	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Arsenic	147	mg/kg-dry		5	1	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Barium	293	mg/kg-dry		5	0.9	SW6010B	04/03/18 16:08 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	114	40967
Beryllium	0.8	mg/kg-dry	J	5	0.5	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Boron	10	mg/kg-dry		5	2	SW6020	04/04/18 13:46 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180404B	39	40967
Cadmium	6.8	mg/kg-dry		0.2	0.1	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Chromium	47	mg/kg-dry		5	1	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Cobalt	13	mg/kg-dry		5	0.2	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Copper	612	mg/kg-dry		5	5	SW6010B	04/03/18 16:08 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	114	40967
Iron	37800	mg/kg-dry	D	100	100	SW6010B	04/03/18 16:08 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	114	40967
Lead	288	mg/kg-dry		5	0.2	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Manganese	3460	mg/kg-dry		5	1	SW6010B	04/03/18 16:08 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	114	40967
Molybdenum	12	mg/kg-dry		5	0.3	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Nickel	29	mg/kg-dry		5	0.3	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Selenium	1.6	mg/kg-dry	J	5	0.6	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Silver	4	mg/kg-dry	J	5	1	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Uranium	6	mg/kg-dry		5	0.2	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Vanadium	61	mg/kg-dry		1	0.5	SW6020	04/03/18 18:43 / sld	03/30/18 07:23	SW3050 B	ICPMS205-H_180403C	56	40967
Zinc	1600	mg/kg-dry		5	1	SW6010B	04/03/18 16:08 / sld	03/30/18 07:23	SW3050 B	ICP2-HE_180403B	114	40967
METALS, TOTAL												
Mercury	0.68	mg/kg-dry		0.10	0.00029	SW7471B	04/05/18 12:28 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	22	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-021
Collection Date: 03/22/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.7	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	3	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	37.8	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	5	R133713
3050 EXTRACTABLE METALS												
Aluminum	4490	mg/kg-dry		6	6	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
Antimony	1.2	mg/kg-dry	J	5	0.08	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Arsenic	40	mg/kg-dry		5	0.6	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Barium	97	mg/kg-dry		5	0.4	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
Beryllium	0.2	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	100	41018
Boron	3	mg/kg-dry	J	5	1	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
Cadmium	1.1	mg/kg-dry		0.2	0.06	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Chromium	9	mg/kg-dry		5	0.6	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Cobalt	4.8	mg/kg-dry	J	5	0.07	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Copper	192	mg/kg-dry		5	2	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
Iron	17300	mg/kg-dry	D	50	50	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
Lead	75	mg/kg-dry		5	0.08	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Manganese	1170	mg/kg-dry		5	0.5	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
Molybdenum	1.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Nickel	4.1	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Selenium	0.3	mg/kg-dry	J	5	0.3	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Silver	1.9	mg/kg-dry	J	5	0.5	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Uranium	1.5	mg/kg-dry	J	5	0.09	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Vanadium	28	mg/kg-dry		1	0.2	SW6020	04/10/18 16:40 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	66	41018
Zinc	613	mg/kg-dry		5	0.6	SW6010B	04/06/18 16:38 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	57	41018
METALS, TOTAL												
Mercury	0.17	mg/kg-dry		0.10	0.00013	SW7471B	04/05/18 12:30 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	23	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-022
Collection Date: 03/22/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.8	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	5	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	27.3	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	6	R133713
3050 EXTRACTABLE METALS												
Aluminum	4950	mg/kg-dry		5	5	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
Antimony	0.13	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Arsenic	22	mg/kg-dry		5	0.6	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Barium	73	mg/kg-dry		5	0.4	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Boron	3	mg/kg-dry	J	5	1	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
Cadmium	0.5	mg/kg-dry		0.2	0.06	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Chromium	7	mg/kg-dry		5	0.6	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Cobalt	6	mg/kg-dry		5	0.07	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Copper	53	mg/kg-dry		5	2	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
Iron	8900	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
Lead	26	mg/kg-dry		5	0.08	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Manganese	992	mg/kg-dry		5	0.5	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
Molybdenum	1.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Nickel	3.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Silver	0.8	mg/kg-dry	J	5	0.5	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Uranium	1.8	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Vanadium	17	mg/kg-dry		1	0.2	SW6020	04/10/18 17:44 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	97	41015
Zinc	227	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	102	41015
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.00012	SW7471B	04/05/18 16:12 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	89	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-023
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	66.0	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	6	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	23.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	7	R133713
3050 EXTRACTABLE METALS												
Aluminum	13400	mg/kg-dry		10	10	SW6010B	04/03/18 16:12 / sld	03/30/18 07:57	SW3050 B	ICP2-HE_180403B	115	40967
Antimony	0.6	mg/kg-dry	J	5	0.2	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Arsenic	45	mg/kg-dry		5	1	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Barium	224	mg/kg-dry		5	0.9	SW6010B	04/03/18 16:12 / sld	03/30/18 07:57	SW3050 B	ICP2-HE_180403B	115	40967
Beryllium	ND	mg/kg-dry		5	0.5	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Boron	11	mg/kg-dry		5	2	SW6020	04/04/18 13:48 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180404B	40	40967
Cadmium	9.5	mg/kg-dry		0.2	0.1	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Chromium	30	mg/kg-dry		5	1	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Cobalt	9	mg/kg-dry		5	0.2	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Copper	607	mg/kg-dry		5	5	SW6010B	04/03/18 16:12 / sld	03/30/18 07:57	SW3050 B	ICP2-HE_180403B	115	40967
Iron	23100	mg/kg-dry	D	100	100	SW6010B	04/03/18 16:12 / sld	03/30/18 07:57	SW3050 B	ICP2-HE_180403B	115	40967
Lead	227	mg/kg-dry		5	0.2	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Manganese	2040	mg/kg-dry		5	1	SW6010B	04/03/18 16:12 / sld	03/30/18 07:57	SW3050 B	ICP2-HE_180403B	115	40967
Molybdenum	8	mg/kg-dry		5	0.3	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Nickel	18	mg/kg-dry		5	0.3	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Selenium	1.5	mg/kg-dry	J	5	0.6	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Silver	3	mg/kg-dry	J	5	1	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Uranium	5	mg/kg-dry		5	0.2	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Vanadium	44	mg/kg-dry		1	0.5	SW6020	04/03/18 18:46 / sld	03/30/18 07:57	SW3050 B	ICPMS205-H_180403C	57	40967
Zinc	1780	mg/kg-dry		5	2	SW6010B	04/03/18 16:12 / sld	03/30/18 07:57	SW3050 B	ICP2-HE_180403B	115	40967
METALS, TOTAL												
Mercury	1.3	mg/kg-dry		0.15	0.0015	SW7471B	04/05/18 16:13 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	90	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 0.065-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-024
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	39.2	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	4	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	37.0	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	8	R133713
3050 EXTRACTABLE METALS												
Aluminum	9890	mg/kg-dry		7	7	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
Antimony	1.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Arsenic	29	mg/kg-dry		5	0.8	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Barium	170	mg/kg-dry		5	0.5	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
Beryllium	0.5	mg/kg-dry	J	5	0.3	SW6020	04/12/18 00:06 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	101	41018
Boron	5	mg/kg-dry	J	5	2	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
Cadmium	4.9	mg/kg-dry		0.2	0.08	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Chromium	12	mg/kg-dry		5	0.8	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Cobalt	6	mg/kg-dry		5	0.09	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Copper	308	mg/kg-dry		5	3	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
Iron	19300	mg/kg-dry	D	60	60	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
Lead	78	mg/kg-dry		5	0.1	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Manganese	1170	mg/kg-dry		5	0.7	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
Molybdenum	1.9	mg/kg-dry	J	5	0.2	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Nickel	6	mg/kg-dry		5	0.2	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Selenium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Silver	3.0	mg/kg-dry	J	5	0.7	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Uranium	2.9	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Vanadium	35	mg/kg-dry		1	0.3	SW6020	04/10/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	67	41018
Zinc	975	mg/kg-dry		5	0.8	SW6010B	04/06/18 16:42 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	58	41018
METALS, TOTAL												
Mercury	0.40	mg/kg-dry		0.10	0.00016	SW7471B	04/05/18 12:42 / rgk	03/30/18 07:24	SW7471B	HGCV201-H_180405A	29	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-025
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	31.7	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	7	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	23.2	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	9	R133713
3050 EXTRACTABLE METALS												
Aluminum	4280	mg/kg-dry		6	6	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
Antimony	0.18	mg/kg-dry	J	5	0.09	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Arsenic	15	mg/kg-dry		5	0.6	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Barium	99	mg/kg-dry		5	0.4	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Boron	3	mg/kg-dry	J	5	1	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
Cadmium	1.1	mg/kg-dry		0.2	0.07	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Chromium	3.9	mg/kg-dry	J	5	0.6	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Cobalt	3.1	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Copper	173	mg/kg-dry		5	2	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
Iron	8130	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
Lead	41	mg/kg-dry		5	0.09	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Manganese	619	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
Molybdenum	0.8	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Nickel	3.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Silver	1.6	mg/kg-dry	J	5	0.6	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Uranium	12	mg/kg-dry		5	0.09	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Vanadium	12	mg/kg-dry		1	0.2	SW6020	04/10/18 17:46 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	98	41015
Zinc	306	mg/kg-dry		5	0.7	SW6010B	04/06/18 19:37 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	105	41015
METALS, TOTAL												
Mercury	0.93	mg/kg-dry		0.10	0.00072	SW7471B	04/05/18 16:21 / rgk	03/30/18 10:04	SW7471B	HGCV201-H_180405A	94	40958

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Duplicate Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-026
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	64.5	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	8	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	21.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	10	R133713
3050 EXTRACTABLE METALS												
Aluminum	13900	mg/kg-dry		10	10	SW6010B	04/04/18 21:23 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	101	41005
Antimony	1.1	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Arsenic	53	mg/kg-dry		5	1	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Barium	247	mg/kg-dry		5	0.9	SW6010B	04/09/18 14:34 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	24	41056
Beryllium	0.6	mg/kg-dry	J	5	0.5	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Boron	13	mg/kg-dry		5	2	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Cadmium	12.4	mg/kg-dry		0.2	0.1	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Chromium	34	mg/kg-dry		5	1	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Cobalt	11	mg/kg-dry		5	0.1	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Copper	706	mg/kg-dry		5	5	SW6010B	04/04/18 21:23 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	101	41005
Iron	24800	mg/kg-dry	D	100	100	SW6010B	04/04/18 21:23 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	101	41005
Lead	265	mg/kg-dry		5	0.2	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Manganese	2280	mg/kg-dry		5	1	SW6010B	04/04/18 21:23 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	101	41005
Molybdenum	8	mg/kg-dry		5	0.2	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Nickel	19	mg/kg-dry		5	0.3	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Selenium	1.6	mg/kg-dry	J	5	0.6	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Silver	4	mg/kg-dry	J	5	1	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Uranium	7	mg/kg-dry		5	0.2	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Vanadium	53	mg/kg-dry		1	0.4	SW6020	04/04/18 14:53 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	69	41005
Zinc	2140	mg/kg-dry		5	1	SW6010B	04/04/18 21:23 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	101	41005
METALS, TOTAL												
Mercury	1.5	mg/kg-dry		0.13	0.0013	SW7471B	04/10/18 11:30 / rgk	04/09/18 08:44	SW7471B	HGCV201-H_180410A	16	41079

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Duplicate Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-027
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	40.6	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	5	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	37.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	11	R133713
3050 EXTRACTABLE METALS												
Aluminum	10200	mg/kg-dry		7	7	SW6010B	04/06/18 16:45 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	59	41018
Antimony	0.8	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Arsenic	21	mg/kg-dry		5	0.7	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Barium	178	mg/kg-dry		5	0.5	SW6010B	04/06/18 16:45 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	59	41018
Beryllium	0.5	mg/kg-dry	J	5	0.3	SW6020	04/12/18 00:08 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	102	41018
Boron	5	mg/kg-dry		5	2	SW6010B	04/16/18 10:14 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180416A	18	41018
Cadmium	4.9	mg/kg-dry		0.2	0.08	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Chromium	11	mg/kg-dry		5	0.7	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Cobalt	7	mg/kg-dry		5	0.09	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Copper	289	mg/kg-dry		5	3	SW6010B	04/06/18 16:45 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	59	41018
Iron	18900	mg/kg-dry	D	60	60	SW6010B	04/06/18 16:45 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	59	41018
Lead	86	mg/kg-dry		5	0.1	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Manganese	1130	mg/kg-dry		5	0.6	SW6010B	04/06/18 16:45 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	59	41018
Molybdenum	1.3	mg/kg-dry	J	5	0.2	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Nickel	7	mg/kg-dry		5	0.2	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Selenium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Silver	3.0	mg/kg-dry	J	5	0.7	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Uranium	4.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Vanadium	33	mg/kg-dry		1	0.3	SW6020	04/10/18 16:44 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	68	41018
Zinc	923	mg/kg-dry		5	0.8	SW6010B	04/06/18 16:45 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	59	41018
METALS, TOTAL												
Mercury	0.54	mg/kg-dry		0.10	0.00017	SW7471B	04/05/18 14:53 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	64	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Duplicate Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-028
Collection Date: 03/22/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	35.9	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			)RYING OVEN 2_180410A	9	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	20.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	12	R133713
3050 EXTRACTABLE METALS												
Aluminum	4000	mg/kg-dry		7	7	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
Antimony	0.2	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Arsenic	7	mg/kg-dry		5	0.7	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Barium	68	mg/kg-dry		5	0.5	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Boron	3	mg/kg-dry	J	5	2	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
Cadmium	1.6	mg/kg-dry		0.2	0.07	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Chromium	4.7	mg/kg-dry	J	5	0.7	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Cobalt	2.4	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Copper	95	mg/kg-dry		5	2	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
Iron	7960	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
Lead	21	mg/kg-dry		5	0.1	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Manganese	456	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
Molybdenum	14	mg/kg-dry		5	0.1	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Nickel	2.8	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Selenium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Vanadium	13	mg/kg-dry		1	0.2	SW6020	04/10/18 18:07 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	108	41015
Zinc	220	mg/kg-dry		5	0.7	SW6010B	04/06/18 19:41 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	106	41015
METALS, TOTAL												
Mercury	0.20	mg/kg-dry		0.10	0.00014	SW7471B	04/06/18 14:42 / rgk	04/04/18 09:13	SW7471B	HGCV201-H_180406B	13	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-029
Collection Date: 03/22/18 11:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	65.8	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 10	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	17.5	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 13	R133713
3050 EXTRACTABLE METALS												
Aluminum	32100	mg/kg-dry		10	10	SW6010B	04/04/18 21:27 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 102	41005
Antimony	0.8	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Arsenic	43	mg/kg-dry		5	1	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Barium	243	mg/kg-dry		5	0.9	SW6010B	04/09/18 14:52 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	: 29	41056
Beryllium	1.5	mg/kg-dry	J	5	0.5	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Boron	11	mg/kg-dry		5	2	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Cadmium	9.7	mg/kg-dry		0.2	0.1	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Chromium	24	mg/kg-dry		5	1	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Cobalt	11	mg/kg-dry		5	0.2	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Copper	714	mg/kg-dry		5	5	SW6010B	04/04/18 21:27 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 102	41005
Iron	31000	mg/kg-dry	D	100	100	SW6010B	04/04/18 21:27 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 102	41005
Lead	187	mg/kg-dry		5	0.2	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Manganese	1650	mg/kg-dry		5	1	SW6010B	04/04/18 21:27 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 102	41005
Molybdenum	5	mg/kg-dry		5	0.3	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Nickel	15	mg/kg-dry		5	0.3	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Selenium	1.2	mg/kg-dry	J	5	0.6	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Silver	2	mg/kg-dry	J	5	1	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Uranium	4.3	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Vanadium	45	mg/kg-dry		1	0.5	SW6020	04/04/18 14:55 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 70	41005
Zinc	1900	mg/kg-dry		5	1	SW6010B	04/04/18 21:27 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 102	41005
METALS, TOTAL												
Mercury	0.88	mg/kg-dry		0.10	0.00028	SW7471B	04/05/18 14:06 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	: 43	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-030
Collection Date: 03/22/18 11:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	33.1	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	6	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	33.0	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	14	R133713
3050 EXTRACTABLE METALS												
Aluminum	13100	mg/kg-dry		6	6	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
Antimony	0.55	mg/kg-dry	J	5	0.08	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Arsenic	16	mg/kg-dry		5	0.6	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Barium	183	mg/kg-dry		5	0.4	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
Beryllium	0.6	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:10 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	103	41018
Boron	3	mg/kg-dry	J	5	1	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
Cadmium	3.7	mg/kg-dry		0.2	0.06	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Chromium	12	mg/kg-dry		5	0.6	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Cobalt	6	mg/kg-dry		5	0.07	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Copper	190	mg/kg-dry		5	2	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
Iron	23400	mg/kg-dry	D	50	50	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
Lead	43	mg/kg-dry		5	0.09	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Manganese	860	mg/kg-dry		5	0.5	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
Molybdenum	0.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Nickel	4.9	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Silver	0.9	mg/kg-dry	J	5	0.5	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Uranium	2.5	mg/kg-dry	J	5	0.09	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Vanadium	51	mg/kg-dry		1	0.2	SW6020	04/10/18 16:46 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	69	41018
Zinc	546	mg/kg-dry		5	0.7	SW6010B	04/06/18 16:57 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	62	41018
METALS, TOTAL												
Mercury	0.25	mg/kg-dry		0.10	0.00015	SW7471B	04/05/18 14:55 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	65	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-031
Collection Date: 03/22/18 11:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	35.9	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 11	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	14.8	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 15	R133713
3050 EXTRACTABLE METALS												
Aluminum	14800	mg/kg-dry		7	7	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
Antimony	0.1	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Arsenic	12	mg/kg-dry		5	0.7	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Barium	232	mg/kg-dry		5	0.5	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
Beryllium	0.8	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
Cadmium	1.1	mg/kg-dry		0.2	0.07	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Chromium	4.1	mg/kg-dry	J	5	0.7	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Cobalt	4.9	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Copper	96	mg/kg-dry		5	2	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
Iron	13100	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
Lead	38	mg/kg-dry		5	0.1	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Manganese	1440	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
Molybdenum	0.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Nickel	2.8	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Uranium	1.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Vanadium	15	mg/kg-dry		1	0.2	SW6020	04/10/18 18:09 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 109	41015
Zinc	300	mg/kg-dry		5	0.7	SW6010B	04/06/18 19:45 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 107	41015
METALS, TOTAL												
Mercury	0.26	mg/kg-dry		0.10	0.00015	SW7471B	04/06/18 14:44 / rgk	04/04/18 09:13	SW7471B	HGCV201-H_180406B	: 14	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-032
Collection Date: 03/22/18 09:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	60.5	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	12	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.1	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	16	R133713
3050 EXTRACTABLE METALS												
Aluminum	25000	mg/kg-dry		10	10	SW6010B	04/04/18 21:38 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	105	41005
Antimony	0.6	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Arsenic	37	mg/kg-dry		5	1	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Barium	502	mg/kg-dry		5	0.8	SW6010B	04/09/18 14:56 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	30	41056
Beryllium	1.1	mg/kg-dry	J	5	0.4	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Boron	11	mg/kg-dry		5	2	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Cadmium	5.9	mg/kg-dry		0.2	0.1	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Chromium	26	mg/kg-dry		5	1	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Cobalt	13	mg/kg-dry		5	0.1	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Copper	597	mg/kg-dry		5	4	SW6010B	04/04/18 21:38 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	105	41005
Iron	28600	mg/kg-dry	D	90	90	SW6010B	04/04/18 21:38 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	105	41005
Lead	148	mg/kg-dry		5	0.2	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Manganese	5520	mg/kg-dry		5	1	SW6010B	04/04/18 21:38 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	105	41005
Molybdenum	7	mg/kg-dry		5	0.2	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Nickel	16	mg/kg-dry		5	0.3	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Selenium	1.3	mg/kg-dry	J	5	0.5	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Silver	2	mg/kg-dry	J	5	1	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Uranium	4.5	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Vanadium	56	mg/kg-dry		1	0.4	SW6020	04/04/18 14:57 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	71	41005
Zinc	1230	mg/kg-dry		5	1	SW6010B	04/04/18 21:38 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	105	41005
METALS, TOTAL												
Mercury	0.61	mg/kg-dry		0.10	0.00025	SW7471B	04/05/18 14:08 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	44	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-033
Collection Date: 03/22/18 09:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.4	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	7	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	15.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	17	R133713
3050 EXTRACTABLE METALS												
Aluminum	3930	mg/kg-dry		6	6	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
Antimony	0.49	mg/kg-dry	J	5	0.08	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Arsenic	4.3	mg/kg-dry	J	5	0.6	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Barium	98	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/12/18 00:12 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	104	41018
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
Cadmium	0.6	mg/kg-dry		0.2	0.06	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Chromium	6	mg/kg-dry		5	0.6	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Cobalt	2.7	mg/kg-dry	J	5	0.07	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Copper	42	mg/kg-dry		5	2	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
Iron	8620	mg/kg-dry	D	50	50	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
Lead	10	mg/kg-dry		5	0.08	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Manganese	904	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
Molybdenum	0.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Nickel	3.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Uranium	1.4	mg/kg-dry	J	5	0.08	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Vanadium	22	mg/kg-dry		1	0.2	SW6020	04/10/18 16:48 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	70	41018
Zinc	115	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:00 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	63	41018
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.00013	SW7471B	04/05/18 14:57 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	66	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-034
Collection Date: 03/22/18 09:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	17.8	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	13	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	15.2	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	18	R133713
3050 EXTRACTABLE METALS												
Aluminum	3390	mg/kg-dry		5	5	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
Antimony	0.09	mg/kg-dry	J	5	0.07	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Arsenic	3.7	mg/kg-dry	J	5	0.5	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Barium	92	mg/kg-dry		5	0.4	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Boron	1	mg/kg-dry	J	5	1	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
Cadmium	0.5	mg/kg-dry		0.2	0.06	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Chromium	4.9	mg/kg-dry	J	5	0.5	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Cobalt	3.6	mg/kg-dry	J	5	0.06	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Copper	49	mg/kg-dry		5	2	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
Iron	5660	mg/kg-dry	D	40	40	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
Lead	8	mg/kg-dry		5	0.08	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Manganese	1290	mg/kg-dry		5	0.5	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
Molybdenum	0.9	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Nickel	4.1	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Selenium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Uranium	0.59	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Vanadium	12	mg/kg-dry		1	0.2	SW6020	04/10/18 18:11 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	110	41015
Zinc	119	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:49 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	108	41015
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.00011	SW7471B	04/06/18 14:46 / rgk	04/04/18 09:13	SW7471B	HGCV201-H_180406B	15	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-035
Collection Date: 03/22/18 08:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	56.5	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 15	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.2	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 19	R133713
3050 EXTRACTABLE METALS												
Aluminum	24500	mg/kg-dry		10	10	SW6010B	04/04/18 21:42 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 106	41005
Antimony	0.4	mg/kg-dry	J	5	0.1	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Arsenic	30	mg/kg-dry		5	1	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Barium	373	mg/kg-dry		5	0.7	SW6010B	04/09/18 15:00 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	: 31	41056
Beryllium	1.2	mg/kg-dry	J	5	0.4	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Boron	11	mg/kg-dry		5	2	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Cadmium	6.5	mg/kg-dry		0.2	0.1	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Chromium	37	mg/kg-dry		5	1	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Cobalt	10	mg/kg-dry		5	0.1	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Copper	359	mg/kg-dry		5	4	SW6010B	04/04/18 21:42 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 106	41005
Iron	22900	mg/kg-dry	D	80	80	SW6010B	04/04/18 21:42 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 106	41005
Lead	126	mg/kg-dry		5	0.1	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Manganese	2150	mg/kg-dry		5	0.9	SW6010B	04/04/18 21:42 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 106	41005
Molybdenum	3.1	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Nickel	21	mg/kg-dry		5	0.2	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Selenium	1.1	mg/kg-dry	J	5	0.5	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Silver	1.0	mg/kg-dry	J	5	0.9	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Uranium	3.9	mg/kg-dry	J	5	0.2	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Vanadium	43	mg/kg-dry		1	0.4	SW6020	04/04/18 14:59 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 72	41005
Zinc	1180	mg/kg-dry		5	1	SW6010B	04/04/18 21:42 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 106	41005
METALS, TOTAL												
Mercury	0.37	mg/kg-dry		0.10	0.00022	SW7471B	04/05/18 14:10 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	: 45	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-036
Collection Date: 03/22/18 08:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.6	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	8	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	35.5	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	20	R133713
3050 EXTRACTABLE METALS												
Aluminum	5770	mg/kg-dry		6	6	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
Antimony	0.26	mg/kg-dry	J	5	0.08	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Arsenic	4.2	mg/kg-dry	J	5	0.6	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Barium	130	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:14 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	105	41018
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
Cadmium	0.7	mg/kg-dry		0.2	0.06	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Chromium	8	mg/kg-dry		5	0.6	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Cobalt	2.8	mg/kg-dry	J	5	0.07	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Copper	33	mg/kg-dry		5	2	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
Iron	7690	mg/kg-dry	D	50	50	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
Lead	10	mg/kg-dry		5	0.08	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Manganese	360	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
Molybdenum	0.9	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Nickel	4.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Uranium	0.84	mg/kg-dry	J	5	0.09	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Vanadium	15	mg/kg-dry		1	0.2	SW6020	04/10/18 16:50 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	71	41018
Zinc	114	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	64	41018
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.00013	SW7471B	04/05/18 14:59 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	67	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-037
Collection Date: 03/22/18 08:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	26.7	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	16	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.8	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	21	R133713
3050 EXTRACTABLE METALS												
Aluminum	8070	mg/kg-dry		6	6	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
Antimony	0.10	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Arsenic	4.9	mg/kg-dry	J	5	0.6	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Barium	219	mg/kg-dry		5	0.4	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
Cadmium	1.1	mg/kg-dry		0.2	0.07	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Chromium	11	mg/kg-dry		5	0.6	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Cobalt	3.4	mg/kg-dry	J	5	0.07	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Copper	30	mg/kg-dry		5	2	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
Iron	8570	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
Lead	16	mg/kg-dry		5	0.09	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Manganese	628	mg/kg-dry		5	0.5	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
Molybdenum	0.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Nickel	6	mg/kg-dry		5	0.1	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Silver	1.6	mg/kg-dry	J	5	0.6	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Uranium	1.1	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Vanadium	15	mg/kg-dry		1	0.2	SW6020	04/10/18 18:13 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	111	41015
Zinc	239	mg/kg-dry		5	0.7	SW6010B	04/06/18 19:52 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	109	41015
METALS, TOTAL												
Mercury	0.003	mg/kg-dry	J	0.10	0.00013	SW7471B	04/06/18 14:48 / rgk	04/04/18 09:13	SW7471B	HGCV201-H_180406B	16	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-038
Collection Date: 03/21/18 17:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	65.7	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 17	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	11.0	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 22	R133713
3050 EXTRACTABLE METALS												
Aluminum	26300	mg/kg-dry		10	10	SW6010B	04/04/18 21:45 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 107	41005
Antimony	0.7	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Arsenic	39	mg/kg-dry		5	1	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Barium	383	mg/kg-dry		5	0.9	SW6010B	04/09/18 15:41 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	: 42	41056
Beryllium	1.0	mg/kg-dry	J	5	0.5	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Boron	13	mg/kg-dry		5	2	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Cadmium	10.6	mg/kg-dry		0.2	0.1	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Chromium	30	mg/kg-dry		5	1	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Cobalt	14	mg/kg-dry		5	0.2	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Copper	617	mg/kg-dry		5	5	SW6010B	04/04/18 21:45 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 107	41005
Iron	30300	mg/kg-dry	D	100	100	SW6010B	04/04/18 21:45 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 107	41005
Lead	141	mg/kg-dry		5	0.2	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Manganese	4410	mg/kg-dry		5	1	SW6010B	04/04/18 21:45 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 107	41005
Molybdenum	6	mg/kg-dry		5	0.3	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Nickel	17	mg/kg-dry		5	0.3	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Selenium	1.7	mg/kg-dry	J	5	0.6	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Silver	2	mg/kg-dry	J	5	1	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Uranium	4.9	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Vanadium	58	mg/kg-dry		1	0.5	SW6020	04/04/18 15:02 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 73	41005
Zinc	2100	mg/kg-dry		5	1	SW6010B	04/04/18 21:45 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 107	41005
METALS, TOTAL												
Mercury	0.74	mg/kg-dry		0.10	0.00027	SW7471B	04/05/18 14:12 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	: 46	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-039
Collection Date: 03/21/18 17:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	38.7	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			)RYING OVEN 2_180406A	9	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	31.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	23	R133713
3050 EXTRACTABLE METALS												
Aluminum	8760	mg/kg-dry		7	7	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
Antimony	0.5	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Arsenic	8	mg/kg-dry		5	0.7	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Barium	198	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
Beryllium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/12/18 00:29 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	112	41018
Boron	3	mg/kg-dry	J	5	2	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
Cadmium	2.7	mg/kg-dry		0.2	0.07	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Chromium	11	mg/kg-dry		5	0.7	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Cobalt	4.6	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Copper	95	mg/kg-dry		5	3	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
Iron	13700	mg/kg-dry	D	60	60	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
Lead	21	mg/kg-dry		5	0.1	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Manganese	787	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
Molybdenum	0.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Nickel	6	mg/kg-dry		5	0.2	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Uranium	1.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Vanadium	29	mg/kg-dry		1	0.2	SW6020	04/10/18 17:04 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	78	41018
Zinc	378	mg/kg-dry		5	0.8	SW6010B	04/06/18 17:08 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	65	41018
METALS, TOTAL												
Mercury	0.12	mg/kg-dry		0.10	0.00016	SW7471B	04/05/18 15:01 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	68	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-040
Collection Date: 03/21/18 17:30
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	30.6	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	18	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	8.2	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	24	R133713
3050 EXTRACTABLE METALS												
Aluminum	4150	mg/kg-dry		6	6	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
Antimony	0.09	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Arsenic	6	mg/kg-dry		5	0.6	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Barium	112	mg/kg-dry		5	0.4	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
Cadmium	0.9	mg/kg-dry		0.2	0.07	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Chromium	8	mg/kg-dry		5	0.6	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Cobalt	2.6	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Copper	34	mg/kg-dry		5	2	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
Iron	6680	mg/kg-dry	D	50	50	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
Lead	11	mg/kg-dry		5	0.09	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Manganese	432	mg/kg-dry		5	0.6	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
Molybdenum	0.5	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Nickel	4.9	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Uranium	0.98	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Vanadium	12	mg/kg-dry		1	0.2	SW6020	04/10/18 18:15 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	112	41015
Zinc	203	mg/kg-dry		5	0.7	SW6010B	04/06/18 19:56 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	110	41015
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.00014	SW7471B	04/06/18 14:50 / rgk	04/04/18 09:13	SW7471B	HGCV201-H_180406B	17	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-041
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	76.7	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 19	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	31.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 25	R133713
3050 EXTRACTABLE METALS												
Aluminum	22800	mg/kg-dry		20	20	SW6010B	04/04/18 21:49 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 108	41005
Antimony	0.9	mg/kg-dry	J	5	0.3	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Arsenic	47	mg/kg-dry		5	2	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Barium	404	mg/kg-dry		5	1	SW6010B	04/09/18 15:45 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	: 43	41056
Beryllium	1.0	mg/kg-dry	J	5	0.7	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Boron	19	mg/kg-dry		5	3	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Cadmium	11.0	mg/kg-dry		0.2	0.2	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Chromium	33	mg/kg-dry		5	2	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Cobalt	15	mg/kg-dry		5	0.2	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Copper	866	mg/kg-dry		7	7	SW6010B	04/04/18 21:49 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 108	41005
Iron	27800	mg/kg-dry	D	200	200	SW6010B	04/04/18 21:49 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 108	41005
Lead	171	mg/kg-dry		5	0.3	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Manganese	6080	mg/kg-dry		5	2	SW6010B	04/04/18 21:49 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 108	41005
Molybdenum	6	mg/kg-dry		5	0.4	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Nickel	20	mg/kg-dry		5	0.4	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Selenium	2.1	mg/kg-dry	J	5	0.9	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Silver	2	mg/kg-dry	J	5	2	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Uranium	3.7	mg/kg-dry	J	5	0.3	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Vanadium	54	mg/kg-dry		1	0.7	SW6020	04/04/18 15:17 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 80	41005
Zinc	2480	mg/kg-dry		5	2	SW6010B	04/04/18 21:49 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 108	41005
METALS, TOTAL												
Mercury	0.85	mg/kg-dry		0.10	0.00040	SW7471B	04/05/18 14:18 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	: 49	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-042
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	36.9	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 10	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	42.8	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 26	R133713
3050 EXTRACTABLE METALS												
Aluminum	8140	mg/kg-dry		7	7	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
Antimony	0.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Arsenic	10	mg/kg-dry		5	0.7	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Barium	213	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
Beryllium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/12/18 00:31 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 113	41018
Boron	4	mg/kg-dry	J	5	2	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
Cadmium	1.9	mg/kg-dry		0.2	0.08	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Chromium	11	mg/kg-dry		5	0.7	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Cobalt	4.5	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Copper	97	mg/kg-dry		5	3	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
Iron	13100	mg/kg-dry	D	60	60	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
Lead	18	mg/kg-dry		5	0.1	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Manganese	1050	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
Molybdenum	0.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Nickel	7	mg/kg-dry		5	0.2	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Selenium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Silver	ND	mg/kg-dry		5	0.7	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Vanadium	25	mg/kg-dry		1	0.2	SW6020	04/10/18 17:07 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 79	41018
Zinc	342	mg/kg-dry		5	0.8	SW6010B	04/06/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 66	41018
METALS, TOTAL												
Mercury	0.1	mg/kg-dry	J	0.10	0.00016	SW7471B	04/05/18 15:03 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 69	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-043
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	33.1	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 20	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	15.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 27	R133713
3050 EXTRACTABLE METALS												
Aluminum	6680	mg/kg-dry		6	6	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
Antimony	0.14	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Arsenic	7	mg/kg-dry		5	0.7	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Barium	193	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Boron	3	mg/kg-dry	J	5	1	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
Cadmium	0.7	mg/kg-dry		0.2	0.07	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Chromium	11	mg/kg-dry		5	0.7	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Cobalt	2.7	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Copper	32	mg/kg-dry		5	2	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
Iron	8730	mg/kg-dry	D	50	50	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
Lead	9	mg/kg-dry		5	0.09	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Manganese	688	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
Molybdenum	0.4	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Nickel	6	mg/kg-dry		5	0.2	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Vanadium	14	mg/kg-dry		1	0.2	SW6020	04/10/18 18:17 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 113	41015
Zinc	160	mg/kg-dry		5	0.7	SW6010B	04/06/18 20:00 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 111	41015
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.00015	SW7471B	04/06/18 14:52 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 18	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-044
Collection Date: 03/21/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	51.6	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	21	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.1	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	28	R133713
3050 EXTRACTABLE METALS												
Aluminum	35100	mg/kg-dry		9	9	SW6010B	04/04/18 22:07 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	113	41005
Antimony	0.6	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Arsenic	33	mg/kg-dry		5	1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Barium	520	mg/kg-dry		5	0.6	SW6010B	04/09/18 15:49 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	44	41056
Beryllium	1.4	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Boron	12	mg/kg-dry		5	2	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Cadmium	3.9	mg/kg-dry		0.2	0.1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Chromium	34	mg/kg-dry		5	1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Cobalt	12	mg/kg-dry		5	0.1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Copper	376	mg/kg-dry		5	4	SW6010B	04/04/18 22:07 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	113	41005
Iron	30500	mg/kg-dry	D	80	80	SW6010B	04/04/18 22:07 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	113	41005
Lead	151	mg/kg-dry		5	0.1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Manganese	2540	mg/kg-dry		5	0.8	SW6010B	04/04/18 22:07 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	113	41005
Molybdenum	2.1	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Nickel	20	mg/kg-dry		5	0.2	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Selenium	0.7	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Silver	1.3	mg/kg-dry	J	5	0.9	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Uranium	2.7	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Vanadium	55	mg/kg-dry		1	0.3	SW6020	04/04/18 15:22 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	82	41005
Zinc	805	mg/kg-dry		5	1	SW6010B	04/04/18 22:07 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	113	41005
METALS, TOTAL												
Mercury	0.36	mg/kg-dry		0.10	0.00020	SW7471B	04/05/18 14:26 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	53	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-045
Collection Date: 03/21/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.9	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 11	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	35.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 29	R133713
3050 EXTRACTABLE METALS												
Aluminum	4620	mg/kg-dry		5	5	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
Antimony	0.95	mg/kg-dry	J	5	0.07	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Arsenic	27	mg/kg-dry		5	0.5	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Barium	96	mg/kg-dry		5	0.3	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:33 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 114	41018
Boron	1	mg/kg-dry	J	5	1	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
Cadmium	1.4	mg/kg-dry		0.2	0.06	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Chromium	13	mg/kg-dry		5	0.5	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Cobalt	3.9	mg/kg-dry	J	5	0.06	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Copper	177	mg/kg-dry		5	2	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
Iron	24600	mg/kg-dry	D	40	40	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
Lead	53	mg/kg-dry		5	0.08	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Manganese	512	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
Molybdenum	0.9	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Nickel	4.2	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Selenium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Silver	1.2	mg/kg-dry	J	5	0.5	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Uranium	1.6	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Vanadium	66	mg/kg-dry		1	0.2	SW6020	04/10/18 17:09 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 80	41018
Zinc	393	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 67	41018
METALS, TOTAL												
Mercury	0.13	mg/kg-dry		0.10	0.00013	SW7471B	04/05/18 15:05 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 70	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-046
Collection Date: 03/21/18 14:00
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.0	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 22	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	34.8	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 30	R133713
3050 EXTRACTABLE METALS												
Aluminum	2970	mg/kg-dry		5	5	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
Antimony	0.30	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Arsenic	17	mg/kg-dry		5	0.5	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Barium	37	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
Cadmium	0.5	mg/kg-dry		0.2	0.06	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Chromium	5	mg/kg-dry		5	0.5	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Cobalt	2.2	mg/kg-dry	J	5	0.06	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Copper	72	mg/kg-dry		5	2	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
Iron	6190	mg/kg-dry	D	40	40	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
Lead	25	mg/kg-dry		5	0.08	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Manganese	315	mg/kg-dry		5	0.5	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
Molybdenum	0.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Nickel	3.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Selenium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Silver	4.8	mg/kg-dry	J	5	0.5	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Uranium	1.2	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Vanadium	12	mg/kg-dry		1	0.2	SW6020	04/10/18 18:19 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 114	41015
Zinc	212	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:03 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 112	41015
METALS, TOTAL												
Mercury	0.06	mg/kg-dry	J	0.10	0.00012	SW7471B	04/06/18 14:54 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 19	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-047
Collection Date: 03/21/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	50.6	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	23	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	31	R133713
3050 EXTRACTABLE METALS												
Aluminum	31200	mg/kg-dry		9	9	SW6010B	04/04/18 22:11 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	114	41005
Antimony	0.8	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Arsenic	58	mg/kg-dry		5	0.9	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Barium	457	mg/kg-dry		5	0.6	SW6010B	04/09/18 15:52 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	45	41056
Beryllium	1.3	mg/kg-dry	J	5	0.3	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Boron	10	mg/kg-dry		5	2	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Cadmium	6.8	mg/kg-dry		0.2	0.1	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Chromium	45	mg/kg-dry		5	0.9	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Cobalt	11	mg/kg-dry		5	0.1	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Copper	621	mg/kg-dry		5	3	SW6010B	04/04/18 22:11 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	114	41005
Iron	28600	mg/kg-dry	D	70	70	SW6010B	04/04/18 22:11 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	114	41005
Lead	185	mg/kg-dry		5	0.1	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Manganese	2640	mg/kg-dry		5	0.8	SW6010B	04/04/18 22:11 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	114	41005
Molybdenum	2.9	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Nickel	25	mg/kg-dry		5	0.2	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Selenium	0.8	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Silver	2.7	mg/kg-dry	J	5	0.8	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Uranium	3.0	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Vanadium	53	mg/kg-dry		1	0.3	SW6020	04/04/18 15:24 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	83	41005
Zinc	1070	mg/kg-dry		5	1	SW6010B	04/04/18 22:11 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	114	41005
METALS, TOTAL												
Mercury	0.73	mg/kg-dry		0.10	0.00020	SW7471B	04/05/18 14:28 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	54	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-048
Collection Date: 03/21/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.2	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 13	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	31.6	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 32	R133713
3050 EXTRACTABLE METALS												
Aluminum	6330	mg/kg-dry		6	6	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
Antimony	0.46	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Arsenic	30	mg/kg-dry		5	0.6	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Barium	105	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:35 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 115	41018
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
Cadmium	1.5	mg/kg-dry		0.2	0.06	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Chromium	10	mg/kg-dry		5	0.6	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Cobalt	3.4	mg/kg-dry	J	5	0.07	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Copper	120	mg/kg-dry		5	2	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
Iron	12200	mg/kg-dry	D	50	50	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
Lead	43	mg/kg-dry		5	0.08	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Manganese	521	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
Molybdenum	0.8	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Nickel	6	mg/kg-dry		5	0.1	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Silver	0.8	mg/kg-dry	J	5	0.5	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Uranium	1.3	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Vanadium	23	mg/kg-dry		1	0.2	SW6020	04/10/18 17:11 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 81	41018
Zinc	453	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 68	41018
METALS, TOTAL												
Mercury	0.14	mg/kg-dry		0.10	0.00013	SW7471B	04/05/18 15:07 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 71	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-049
Collection Date: 03/21/18 12:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.4	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 24	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	44.7	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 33	R133713
3050 EXTRACTABLE METALS												
Aluminum	7170	mg/kg-dry		6	6	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
Antimony	0.40	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Arsenic	21	mg/kg-dry		5	0.6	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Barium	151	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
Cadmium	1.5	mg/kg-dry		0.2	0.06	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Chromium	11	mg/kg-dry		5	0.6	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Cobalt	3.2	mg/kg-dry	J	5	0.07	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Copper	70	mg/kg-dry		5	2	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
Iron	9740	mg/kg-dry	D	50	50	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
Lead	38	mg/kg-dry		5	0.08	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Manganese	497	mg/kg-dry		5	0.5	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
Molybdenum	0.5	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Nickel	7	mg/kg-dry		5	0.1	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Uranium	1.1	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Vanadium	16	mg/kg-dry		1	0.2	SW6020	04/10/18 18:21 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 115	41015
Zinc	757	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:07 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 113	41015
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.00012	SW7471B	04/06/18 15:06 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 25	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-050
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.7	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 26	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	9.6	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 34	R133713
3050 EXTRACTABLE METALS												
Aluminum	29000	mg/kg-dry		10	10	SW6010B	04/04/18 22:22 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 117	41005
Antimony	0.9	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Arsenic	52	mg/kg-dry		5	1	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Barium	461	mg/kg-dry		5	0.7	SW6010B	04/09/18 15:56 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	: 46	41056
Beryllium	1.4	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Boron	12	mg/kg-dry		5	2	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Cadmium	8.4	mg/kg-dry		0.2	0.1	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Chromium	35	mg/kg-dry		5	1	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Cobalt	13	mg/kg-dry		5	0.1	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Copper	507	mg/kg-dry		5	4	SW6010B	04/04/18 22:22 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 117	41005
Iron	33600	mg/kg-dry	D	80	80	SW6010B	04/04/18 22:22 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 117	41005
Lead	206	mg/kg-dry		5	0.1	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Manganese	2650	mg/kg-dry		5	0.9	SW6010B	04/04/18 22:22 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 117	41005
Molybdenum	2.3	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Nickel	20	mg/kg-dry		5	0.2	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Selenium	1.2	mg/kg-dry	J	5	0.5	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Silver	2.1	mg/kg-dry	J	5	0.9	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Uranium	3.2	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Vanadium	67	mg/kg-dry		1	0.4	SW6020	04/04/18 15:26 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	: 84	41005
Zinc	1400	mg/kg-dry		5	1	SW6010B	04/04/18 22:22 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	: 117	41005
METALS, TOTAL												
Mercury	0.66	mg/kg-dry		0.10	0.00021	SW7471B	04/05/18 14:30 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	: 55	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-051
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	27.0	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 14	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	56.3	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 35	R133713
3050 EXTRACTABLE METALS												
Aluminum	6720	mg/kg-dry		6	6	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
Antimony	0.42	mg/kg-dry	J	5	0.09	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Arsenic	16	mg/kg-dry		5	0.6	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Barium	172	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:37 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 116	41018
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
Cadmium	0.9	mg/kg-dry		0.2	0.07	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Chromium	18	mg/kg-dry		5	0.6	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Cobalt	5	mg/kg-dry		5	0.07	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Copper	96	mg/kg-dry		5	2	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
Iron	29600	mg/kg-dry	D	50	50	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
Lead	37	mg/kg-dry		5	0.09	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Manganese	626	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
Molybdenum	0.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Nickel	6	mg/kg-dry		5	0.1	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Uranium	2.5	mg/kg-dry	J	5	0.09	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Vanadium	77	mg/kg-dry		1	0.2	SW6020	04/10/18 17:13 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 82	41018
Zinc	350	mg/kg-dry		5	0.7	SW6010B	04/06/18 17:22 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 69	41018
METALS, TOTAL												
Mercury	0.12	mg/kg-dry		0.10	0.00014	SW7471B	04/05/18 15:09 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 72	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-052
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	30.0	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 27	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	7.5	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 36	R133713
3050 EXTRACTABLE METALS												
Aluminum	3450	mg/kg-dry		6	6	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
Antimony	0.25	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Arsenic	13	mg/kg-dry		5	0.7	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Barium	57	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
Cadmium	1.1	mg/kg-dry		0.2	0.07	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Chromium	4.6	mg/kg-dry	J	5	0.7	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Cobalt	2.2	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Copper	73	mg/kg-dry		5	2	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
Iron	6840	mg/kg-dry	D	50	50	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
Lead	18	mg/kg-dry		5	0.09	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Manganese	476	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
Molybdenum	0.5	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Nickel	3.1	mg/kg-dry	J	5	0.2	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Silver	ND	mg/kg-dry		5	0.6	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Vanadium	13	mg/kg-dry		1	0.2	SW6020	04/10/18 18:23 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 116	41015
Zinc	339	mg/kg-dry		5	0.7	SW6010B	04/06/18 20:11 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 114	41015
METALS, TOTAL												
Mercury	0.14	mg/kg-dry		0.10	0.00014	SW7471B	04/06/18 15:08 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 26	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Duplicate Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-053
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	50.4	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	28	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	5.7	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	37	R133713
3050 EXTRACTABLE METALS												
Aluminum	26900	mg/kg-dry		8	8	SW6010B	04/04/18 22:26 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	118	41005
Antimony	0.6	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Arsenic	41	mg/kg-dry		5	0.9	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Barium	341	mg/kg-dry		5	0.6	SW6010B	04/09/18 16:00 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	47	41056
Beryllium	1.3	mg/kg-dry	J	5	0.3	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Boron	11	mg/kg-dry		5	2	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Cadmium	8.5	mg/kg-dry		0.2	0.09	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Chromium	33	mg/kg-dry		5	0.9	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Cobalt	11	mg/kg-dry		5	0.1	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Copper	484	mg/kg-dry		5	3	SW6010B	04/04/18 22:26 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	118	41005
Iron	32200	mg/kg-dry	D	70	70	SW6010B	04/04/18 22:26 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	118	41005
Lead	163	mg/kg-dry		5	0.1	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Manganese	2670	mg/kg-dry		5	0.8	SW6010B	04/04/18 22:26 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	118	41005
Molybdenum	2.2	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Nickel	18	mg/kg-dry		5	0.2	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Selenium	1.1	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Silver	1.9	mg/kg-dry	J	5	0.8	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Uranium	2.8	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Vanadium	70	mg/kg-dry		1	0.3	SW6020	04/04/18 15:28 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	85	41005
Zinc	1210	mg/kg-dry		5	0.9	SW6010B	04/04/18 22:26 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	118	41005
METALS, TOTAL												
Mercury	0.58	mg/kg-dry		0.10	0.00019	SW7471B	04/05/18 14:32 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	56	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Duplicate Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-054
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.6	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 15	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	42.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 38	R133713
3050 EXTRACTABLE METALS												
Aluminum	5730	mg/kg-dry		6	6	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
Antimony	0.78	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Arsenic	27	mg/kg-dry		5	0.6	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Barium	119	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:39 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 117	41018
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
Cadmium	1.2	mg/kg-dry		0.2	0.06	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Chromium	34	mg/kg-dry		5	0.6	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Cobalt	7	mg/kg-dry		5	0.07	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Copper	94	mg/kg-dry		5	2	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
Iron	60900	mg/kg-dry	D	50	50	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
Lead	102	mg/kg-dry		5	0.08	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Manganese	980	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
Molybdenum	0.6	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Nickel	7	mg/kg-dry		5	0.1	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Selenium	0.4	mg/kg-dry	J	5	0.3	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Uranium	8	mg/kg-dry		5	0.08	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Vanadium	184	mg/kg-dry		1	0.2	SW6020	04/10/18 17:15 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 83	41018
Zinc	329	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:26 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 70	41018
METALS, TOTAL												
Mercury	0.11	mg/kg-dry		0.10	0.00013	SW7471B	04/05/18 16:29 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 98	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Duplicate Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-055
Collection Date: 03/21/18 10:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.3	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 29	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	9.0	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 39	R133713
3050 EXTRACTABLE METALS												
Aluminum	3470	mg/kg-dry		5	5	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
Antimony	0.32	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Arsenic	13	mg/kg-dry		5	0.6	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Barium	80	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
Cadmium	0.4	mg/kg-dry		0.2	0.06	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Chromium	7	mg/kg-dry		5	0.6	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Cobalt	2.5	mg/kg-dry	J	5	0.07	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Copper	94	mg/kg-dry		5	2	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
Iron	8860	mg/kg-dry	D	50	50	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
Lead	21	mg/kg-dry		5	0.08	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Manganese	595	mg/kg-dry		5	0.5	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
Molybdenum	0.4	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Nickel	3.7	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Silver	2.4	mg/kg-dry	J	5	0.5	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Uranium	1.0	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Vanadium	17	mg/kg-dry		1	0.2	SW6020	04/10/18 18:26 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 117	41015
Zinc	199	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:22 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 117	41015
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.00012	SW7471B	04/06/18 15:10 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 27	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-056
Collection Date: 03/21/18 09:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	52.8	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	30	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.7	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	40	R133713
3050 EXTRACTABLE METALS												
Aluminum	24200	mg/kg-dry		9	9	SW6010B	04/04/18 22:30 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	119	41005
Antimony	0.5	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Arsenic	44	mg/kg-dry		5	1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Barium	336	mg/kg-dry		5	0.7	SW6010B	04/09/18 16:03 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	48	41056
Beryllium	1.2	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Boron	9	mg/kg-dry		5	2	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Cadmium	10.1	mg/kg-dry		0.2	0.1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Chromium	32	mg/kg-dry		5	1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Cobalt	11	mg/kg-dry		5	0.1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Copper	569	mg/kg-dry		5	4	SW6010B	04/04/18 22:30 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	119	41005
Iron	28300	mg/kg-dry	D	80	80	SW6010B	04/04/18 22:30 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	119	41005
Lead	161	mg/kg-dry		5	0.1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Manganese	2570	mg/kg-dry		5	0.8	SW6010B	04/04/18 22:30 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	119	41005
Molybdenum	2.6	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Nickel	17	mg/kg-dry		5	0.2	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Selenium	1.0	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Silver	2.1	mg/kg-dry	J	5	0.9	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Uranium	2.9	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Vanadium	60	mg/kg-dry		1	0.3	SW6020	04/04/18 15:30 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	86	41005
Zinc	1310	mg/kg-dry		5	1	SW6010B	04/04/18 22:30 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	119	41005
METALS, TOTAL												
Mercury	0.74	mg/kg-dry		0.10	0.00020	SW7471B	04/05/18 14:34 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	57	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-057
Collection Date: 03/21/18 09:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	26.2	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 16	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	41.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 41	R133713
3050 EXTRACTABLE METALS												
Aluminum	6710	mg/kg-dry		6	6	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
Antimony	0.71	mg/kg-dry	J	5	0.09	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Arsenic	26	mg/kg-dry		5	0.6	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Barium	145	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/12/18 00:41 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 118	41018
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
Cadmium	1.1	mg/kg-dry		0.2	0.07	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Chromium	10	mg/kg-dry		5	0.6	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Cobalt	4.3	mg/kg-dry	J	5	0.07	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Copper	130	mg/kg-dry		5	2	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
Iron	13000	mg/kg-dry	D	50	50	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
Lead	43	mg/kg-dry		5	0.09	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Manganese	853	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
Molybdenum	0.8	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Nickel	5	mg/kg-dry		5	0.1	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Silver	0.8	mg/kg-dry	J	5	0.6	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Uranium	1.3	mg/kg-dry	J	5	0.09	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Vanadium	27	mg/kg-dry		1	0.2	SW6020	04/10/18 17:17 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 84	41018
Zinc	348	mg/kg-dry		5	0.7	SW6010B	04/06/18 17:30 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 71	41018
METALS, TOTAL												
Mercury	0.13	mg/kg-dry		0.10	0.00013	SW7471B	04/05/18 15:23 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 79	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-058
Collection Date: 03/21/18 09:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.0	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 31	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.9	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 42	R133713
3050 EXTRACTABLE METALS												
Aluminum	3370	mg/kg-dry		6	6	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
Antimony	0.19	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Arsenic	10	mg/kg-dry		5	0.6	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Barium	62	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
Cadmium	0.3	mg/kg-dry		0.2	0.06	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Chromium	7	mg/kg-dry		5	0.6	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Cobalt	1.9	mg/kg-dry	J	5	0.07	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Copper	34	mg/kg-dry		5	2	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
Iron	6450	mg/kg-dry	D	50	50	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
Lead	18	mg/kg-dry		5	0.08	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Manganese	320	mg/kg-dry		5	0.5	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
Molybdenum	0.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Nickel	3.4	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Uranium	0.87	mg/kg-dry	J	5	0.09	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Vanadium	13	mg/kg-dry		1	0.2	SW6020	04/10/18 18:38 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 123	41015
Zinc	120	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:26 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 118	41015
METALS, TOTAL												
Mercury	0.19	mg/kg-dry		0.10	0.00012	SW7471B	04/06/18 15:12 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 28	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-059
Collection Date: 03/21/18 08:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	49.0	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	32	R133750
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	43	R133713
3050 EXTRACTABLE METALS												
Aluminum	24600	mg/kg-dry		10	10	SW6010B	04/04/18 22:33 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	120	41005
Antimony	1.0	mg/kg-dry	J	5	0.1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Arsenic	77	mg/kg-dry		5	1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Barium	302	mg/kg-dry		5	0.6	SW6010B	04/09/18 16:07 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	49	41056
Beryllium	1.0	mg/kg-dry	J	5	0.4	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Boron	8	mg/kg-dry		5	2	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Cadmium	11.3	mg/kg-dry		0.2	0.1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Chromium	67	mg/kg-dry		5	1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Cobalt	12	mg/kg-dry		5	0.1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Copper	635	mg/kg-dry		5	4	SW6010B	04/04/18 22:33 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	120	41005
Iron	31300	mg/kg-dry	D	80	80	SW6010B	04/04/18 22:33 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	120	41005
Lead	334	mg/kg-dry		5	0.1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Manganese	1460	mg/kg-dry		5	0.9	SW6010B	04/04/18 22:33 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	120	41005
Molybdenum	4.7	mg/kg-dry	J	5	0.2	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Nickel	40	mg/kg-dry		5	0.2	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Selenium	1.2	mg/kg-dry	J	5	0.5	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Silver	2.5	mg/kg-dry	J	5	0.9	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Uranium	6	mg/kg-dry		5	0.1	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Vanadium	70	mg/kg-dry		1	0.4	SW6020	04/04/18 15:48 / sld	04/03/18 09:23	SW3050 B	ICPMS205-H_180404B	94	41005
Zinc	1620	mg/kg-dry		5	1	SW6010B	04/04/18 22:33 / sld	04/03/18 09:23	SW3050 B	ICP2-HE_180404B	120	41005
METALS, TOTAL												
Mercury	0.99	mg/kg-dry		0.10	0.00037	SW7471B	04/05/18 16:23 / rgk	04/03/18 09:49	SW7471B	HGCV201-H_180405A	95	40987

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 0.065mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-060
Collection Date: 03/21/18 08:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.2	wt%		0.2	0.02	D2974	04/06/18 09:13 / rgk			RYING OVEN 2_180406A	: 17	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	24.3	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 44	R133713
3050 EXTRACTABLE METALS												
Aluminum	4780	mg/kg-dry		5	5	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
Antimony	0.46	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Arsenic	21	mg/kg-dry		5	0.5	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Barium	97	mg/kg-dry		5	0.4	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
Beryllium	0.2	mg/kg-dry	J	5	0.2	SW6020	04/12/18 00:52 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180411C	: 123	41018
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
Cadmium	1.0	mg/kg-dry		0.2	0.06	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Chromium	9	mg/kg-dry		5	0.5	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Cobalt	3.1	mg/kg-dry	J	5	0.06	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Copper	116	mg/kg-dry		5	2	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
Iron	11600	mg/kg-dry	D	40	40	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
Lead	44	mg/kg-dry		5	0.08	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Manganese	315	mg/kg-dry		5	0.5	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
Molybdenum	3.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Nickel	5.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Selenium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Silver	0.6	mg/kg-dry	J	5	0.5	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Uranium	2.2	mg/kg-dry	J	5	0.08	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Vanadium	25	mg/kg-dry		1	0.2	SW6020	04/10/18 17:19 / sld	04/04/18 09:43	SW3050 B	ICPMS205-H_180410B	: 85	41018
Zinc	338	mg/kg-dry		5	0.6	SW6010B	04/06/18 17:41 / sld	04/04/18 09:43	SW3050 B	ICP2-HE_180406B	: 74	41018
METALS, TOTAL												
Mercury	0.1	mg/kg-dry	J	0.10	0.00012	SW7471B	04/05/18 15:25 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	: 80	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 1mm-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030365-061
Collection Date: 03/21/18 08:45
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	17.5	wt%		0.2	0.02	D2974	04/10/18 09:05 / rgk			RYING OVEN 2_180410A	: 33	R133750
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	26.4	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 45	R133713
3050 EXTRACTABLE METALS												
Aluminum	3150	mg/kg-dry		5	5	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
Antimony	0.12	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Arsenic	9	mg/kg-dry		5	0.5	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Barium	55	mg/kg-dry		5	0.4	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
Cadmium	0.2	mg/kg-dry		0.2	0.06	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Chromium	7	mg/kg-dry		5	0.5	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Cobalt	2.1	mg/kg-dry	J	5	0.06	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Copper	36	mg/kg-dry		5	2	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
Iron	6140	mg/kg-dry	D	40	40	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
Lead	10	mg/kg-dry		5	0.08	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Manganese	309	mg/kg-dry		5	0.5	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
Molybdenum	0.4	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Nickel	4.0	mg/kg-dry	J	5	0.1	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Selenium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Uranium	0.83	mg/kg-dry	J	5	0.08	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Vanadium	13	mg/kg-dry		1	0.2	SW6020	04/10/18 18:41 / sld	04/04/18 09:10	SW3050 B	ICPMS205-H_180410B	: 124	41015
Zinc	98	mg/kg-dry		5	0.6	SW6010B	04/06/18 20:30 / sld	04/04/18 09:10	SW3050 B	ICP2-HE_180406B	: 119	41015
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.00011	SW7471B	04/06/18 15:14 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	: 29	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-062
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	14	mg/L	D	2	0.3	A2540 D	03/26/18 14:30 / km			124 (14410200)_180326A	56	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	0.7	A2320 B	03/27/18 10:30 / km			PHSC_101-H_180327A	41	R133372
Bicarbonate as HCO3	130	mg/L		4	0.7	A2320 B	03/27/18 10:30 / km			PHSC_101-H_180327A	41	R133372
Chloride	50	mg/L		1	0.003	E300.0	03/27/18 00:48 / SR			IC METROHM_180326A	54	R133379
Sulfate	82	mg/L		1	0.01	E300.0	03/27/18 00:48 / SR			IC METROHM_180326A	54	R133379
NUTRIENTS												
Nitrogen, Ammonia as N	0.60	mg/L		0.05	0.02	E350.1	03/26/18 14:33 / cm			FIA203-HE_180326B	36	R133359
Nitrogen, Nitrate+Nitrite as N	0.84	mg/L		0.02	0.007	E353.2	03/26/18 10:58 / cm			FIA203-HE_180326A	103	R133339
Nitrogen, Total	2.11	mg/L	D	0.06	0.02	A4500 N-C	03/30/18 09:30 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	21	40964
Phosphorus, Total as P	0.218	mg/L		0.003	0.0006	E365.1	03/27/18 14:31 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	79	40928
METALS, DISSOLVED												
Aluminum	0.0068	mg/L	J	0.009	0.0007	E200.8	03/27/18 19:11 / sld			ICPMS205-H_180327A	206	R133388
Antimony	0.00020	mg/L	J	0.0005	0.00002	E200.8	03/28/18 16:31 / sld			ICPMS205-H_180328A	87	R133435
Arsenic	0.009	mg/L		0.001	0.00002	E200.8	03/27/18 19:11 / sld			ICPMS205-H_180327A	206	R133388
Barium	0.044	mg/L		0.003	0.00002	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/28/18 16:31 / sld			ICPMS205-H_180328A	87	R133435
Boron	0.059	mg/L	J	0.1	0.003	E200.7	03/26/18 16:37 / sld			ICP2-HE_180326A	125	R133366
Cadmium	0.00034	mg/L		0.00003	0.00002	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Calcium	53	mg/L		1	0.01	E200.7	03/26/18 16:37 / sld			ICP2-HE_180326A	125	R133366
Chromium	0.00009	mg/L	J	0.01	0.00003	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Cobalt	0.00030	mg/L	J	0.01	0.00002	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Copper	0.015	mg/L		0.001	0.00004	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Iron	0.12	mg/L		0.02	0.002	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Lead	0.00030	mg/L	J	0.0003	0.00001	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Magnesium	12	mg/L		1	0.05	E200.7	03/26/18 16:37 / sld			ICP2-HE_180326A	125	R133366
Manganese	0.297	mg/L		0.001	0.00003	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Mercury	2.1E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 11:10 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	41	40905
Molybdenum	0.0043	mg/L	J	0.005	0.00002	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Nickel	0.00096	mg/L	J	0.002	0.00003	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Potassium	7	mg/L		1	0.05	E200.7	03/26/18 16:37 / sld			ICP2-HE_180326A	125	R133366
Selenium	0.00027	mg/L	J	0.001	0.00003	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Aqueous

Lab ID: H18030365-062
Collection Date: 03/21/18 16:15
DateReceived: 03/23/18
Report Date: 04/17/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Silver	0.000012	mg/L	J	0.0002	8E-06	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Sodium	29	mg/L		1	0.02	E200.7	03/26/18 16:37 / sld			ICP2-HE_180326A	125	R133366
Uranium	0.0046	mg/L		0.0002	3E-06	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	03/27/18 01:58 / sld			ICPMS205-H_180326C	245	R133370
Zinc	0.129	mg/L		0.008	0.0001	E200.8	03/28/18 16:31 / sld			ICPMS205-H_180328A	87	R133435
METALS, TOTAL RECOVERABLE												
Aluminum	0.372	mg/L		0.009	0.003	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908
Antimony	0.00045	mg/L	J	0.0005	0.00002	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908
Arsenic	0.011	mg/L		0.001	0.00002	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908
Barium	0.046	mg/L		0.003	0.00006	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908
Boron	0.059	mg/L	J	0.1	0.002	E200.7	03/27/18 19:25 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	158	40908
Cadmium	0.00059	mg/L		0.00003	0.00002	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Calcium	54	mg/L		1	0.01	E200.7	03/27/18 19:25 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	158	40908
Chromium	0.0006	mg/L	J	0.01	0.0002	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Cobalt	0.00044	mg/L	J	0.01	0.00002	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Copper	0.027	mg/L		0.001	0.0003	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Iron	0.56	mg/L		0.02	0.02	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Lead	0.0023	mg/L		0.0003	0.00003	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908
Magnesium	13	mg/L		1	0.09	E200.7	03/27/18 19:25 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	158	40908
Manganese	0.334	mg/L		0.001	0.0002	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Mercury	0.0000139	mg/L		5E-06	1E-06	E245.1	03/29/18 11:13 / PN	03/26/18 07:52	E245.1	HGCV202-H_180328A	42	40905
Molybdenum	0.0043	mg/L	J	0.005	0.00003	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Nickel	ND	mg/L		0.002	0.002	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Potassium	7	mg/L		1	0.05	E200.7	03/27/18 19:25 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	158	40908
Selenium	0.00031	mg/L	J	0.001	0.00002	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Silver	0.000060	mg/L	J	0.0002	8E-06	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Sodium	29	mg/L		1	0.02	E200.7	03/27/18 19:25 / sld	03/26/18 07:54	E200.2	ICP2-HE_180327A	158	40908
Uranium	0.0048	mg/L		0.0002	8E-06	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908
Vanadium	0.0025	mg/L	J	0.1	0.00003	E200.8	03/27/18 02:00 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180326C	246	40908
Zinc	0.154	mg/L		0.008	0.002	E200.8	03/27/18 19:14 / sld	03/26/18 07:54	E200.2	ICPMS205-H_180327A	207	40908

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180327wa-hg202

Run ID :Run Order: **HGCV202-H_180327A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **03/27/18 08:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000104	0.00010	0.0001	0	**104**	90	110				

Associated samples: **H18030365-001B, H18030365-001C**

Run ID :Run Order: **HGCV202-H_180327A: 119** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/27/18 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000100	0.00010	0.0001	0	**100**	90	110				

Associated samples: **H18030365-001B, H18030365-001C**

Run ID :Run Order: **HGCV202-H_180327A: 130** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/27/18 14:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000102	0.00010	0.0001	0	**102**	90	110				

Associated samples: **H18030365-001B, H18030365-001C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180329wa-hg202

Run ID :Run Order: **HGCV202-H_180328A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **03/29/18 09:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.41E-05	0.00010	0.0001	0	94	90	110				

Associated samples: **H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/29/18 10:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	106	90	110				

Associated samples: **H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 35** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/29/18 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000107	0.00010	0.0001	0	107	90	110				

Associated samples: **H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 49** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/29/18 11:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000109	0.00010	0.0001	0	109	90	110				

Associated samples: **H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180329wa-hg202

Run ID :Run Order: **HGCV202-H_180328A: 75** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/29/18 13:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000108	0.00010	0.0001	0	**108**	90	110				

Associated samples: **H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180405SA-HG201

Run ID :Run Order: **HGCV201-H_180405A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/05/18 11:46** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	101	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 11:48** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 12:46** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	101	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 14:14** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180405SA-HG201

Run ID :Run Order: **HGCV201-H_180405A: 59** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 14:38** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	105	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 77** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 15:19** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	104	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 15:39** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 96** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 16:25** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-029A, H18030365-030A, H18030365-032A, H18030365-033A, H18030365-035A, H18030365-036A, H18030365-038A, H18030365-039A, H18030365-041A, H18030365-042A, H18030365-044A, H18030365-045A, H18030365-047A, H18030365-048A, H18030365-050A, H18030365-051A, H18030365-053A, H18030365-054A, H18030365-056A, H18030365-057A, H18030365-059A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180406SA-HG201

Run ID :Run Order: **HGCV201-H_180406B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/06/18 14:11** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	103	90	110				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/06/18 14:13** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	101	90	110				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/06/18 15:02** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	102	90	110				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 180410SA-HG201MDL

Run ID :Run Order: **HGCV201-H_180410A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/10/18 11:00** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	**102**	90	110				

Associated samples: **H18030365-026A**

Run ID :Run Order: **HGCV201-H_180410A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/10/18 11:02** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**100**	90	110				

Associated samples: **H18030365-026A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40904

Run ID :Run Order: **HGCV202-H_180327A: 117** SampType: **Method Blank** Lab ID: **MB-40904** Method: **E245.1**
Analysis Date: **03/27/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B**

Run ID :Run Order: **HGCV202-H_180327A: 118** SampType: **Laboratory Control Sample** Lab ID: **LCS-40904** Method: **E245.1**
Analysis Date: **03/27/18 13:29** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.99E-05	0.00010	0.000075	0	93	90	110				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B**

Run ID :Run Order: **HGCV202-H_180327A: 122** SampType: **Sample Matrix Spike** Lab ID: **H18030365-001BMS** Method: **E245.1**
Analysis Date: **03/27/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.98E-05	0.00010	0.000075	0	93	70	130				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B**

Run ID :Run Order: **HGCV202-H_180327A: 123** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-001BMSD** Method: **E245.1**
Analysis Date: **03/27/18 13:44** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	6.97E-05	5.0E-05	0.000075	0	93	70	130	0.0000698	0.2	20	

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B**

Run ID :Run Order: **HGCV202-H_180328A: 17** SampType: **Method Blank** Lab ID: **MB-40904** Method: **E245.1**
Analysis Date: **03/29/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40904

Run ID :Run Order: **HGCV202-H_180328A: 17** SampType: **Method Blank** Lab ID: **MB-40904** Method: **E245.1**

Analysis Date: **03/29/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40905

Run ID :Run Order: **HGCV202-H_180328A: 11** SampType: **Method Blank** Lab ID: **MB-40905** Method: **E245.1**
Analysis Date: **03/29/18 09:36** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-40905** Method: **E245.1**
Analysis Date: **03/29/18 09:39** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.34E-05	0.00010	0.000075	0	98	90	110				

Associated samples: **H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 14** SampType: **Sample Matrix Spike** Lab ID: **H18030365-011BMS** Method: **E245.1**
Analysis Date: **03/29/18 09:46** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.05E-05	0.00010	0.000075	0.00000408	102	70	130				

Associated samples: **H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011BMSD** Method: **E245.1**
Analysis Date: **03/29/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.78E-05	5.0E-05	0.000075	0.00000408	98	70	130	0.0000805	3.3	20	

Associated samples: **H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 31** SampType: **Sample Matrix Spike** Lab ID: **H18030365-016CMS** Method: **E245.1**
Analysis Date: **03/29/18 10:38** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000108	0.00010	0.000075	0.00003655	95	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40905

Run ID :Run Order: **HGCV202-H_180328A: 31** SampType: **Sample Matrix Spike** Lab ID: **H18030365-016CMS** Method: **E245.1**

Analysis Date: **03/29/18 10:38** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **HGCV202-H_180328A: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-016CMSD** Method: **E245.1**

Analysis Date: **03/29/18 10:41** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000112	0.00010	0.000075	0.00003655	**100**	70	130	0.0001076	**3.6**	20	

Associated samples: **H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICP2-HE_180327A: 120** SampType: **Method Blank** Lab ID: **MB-40908** Method: **E200.7**

Analysis Date: **03/27/18 17:01** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Boron	ND	0.10									
Calcium	ND	1.0									
Magnesium	ND	1.0									
Potassium	ND	1.0									
Sodium	ND	1.0									

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 121** SampType: **Laboratory Control Sample** Lab ID: **LCS-40908** Method: **E200.7**

Analysis Date: **03/27/18 17:05** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.030	2.5	0	**101**	85	115				
Boron	0.491	0.050	0.5	0	**98**	85	115				
Calcium	25.3	1.0	25	0.3399	**100**	85	115				
Magnesium	24.8	1.0	25	0.02145	**99**	85	115				
Potassium	25.2	1.0	25	0	**101**	85	115				
Sodium	25.3	1.0	25	0	**101**	85	115				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 123** SampType: **Serial Dilution** Lab ID: **H18030365-001CDIL** Method: **E200.7**

Analysis Date: **03/27/18 17:12** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.030		0		0	0	0.00824		10	
Boron	ND	0.050		0		0	0	0		10	
Calcium	0.852	1.0		0		0	0	0.6228		10	N
Magnesium	0.0989	1.0		0		0	0	0.02722		10	N
Potassium	ND	1.0		0		0	0	0		10	
Sodium	ND	1.0		0		0	0	0		10	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICP2-HE_180327A: 125** SampType: **Sample Matrix Spike** Lab ID: **H18030365-001CMS3** Method: **E200.7**

Analysis Date: **03/27/18 17:20** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.030	2.5	0.00824	102	70	130				
Boron	0.495	0.050	0.5	0	99	70	130				
Calcium	25.7	1.0	25	0.6228	100	70	130				
Magnesium	25.0	1.0	25	0.02722	100	70	130				
Potassium	25.5	1.0	25	0	102	70	130				
Sodium	25.6	1.0	25	0	103	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 126** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-001CMSD3** Method: **E200.7**

Analysis Date: **03/27/18 17:24** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.030	2.5	0.00824	101	70	130	2.549	0.1	20	
Boron	0.494	0.050	0.5	0	99	70	130	0.4948	0.1	20	
Calcium	25.8	1.0	25	0.6228	101	70	130	25.72	0.5	20	
Magnesium	25.0	1.0	25	0.02722	100	70	130	24.95	0.1	20	
Potassium	25.8	1.0	25	0	103	70	130	25.53	0.9	20	
Sodium	25.8	1.0	25	0	103	70	130	25.64	0.8	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 139** SampType: **Serial Dilution** Lab ID: **H18030365-011CDIL** Method: **E200.7**

Analysis Date: **03/27/18 18:13** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.654	0.030		0		0	0	0.6009	8.5	10	
Boron	0.0529	0.050		0		0	0	0.05868		10	N
Calcium	48.4	1.0		0		0	0	51.46	6.0	10	
Magnesium	11.9	1.0		0		0	0	12.3	3.0	10	
Potassium	6.85	1.0		0		0	0	7.683	12	10	R
Sodium	27.1	1.0		0		0	0	29.17	7.2	10	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICP2-HE_180327A: 151** SampType: **Sample Matrix Spike** Lab ID: **H18030365-011CMS3** Method: **E200.7**

Analysis Date: **03/27/18 18:58** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.31	0.030	2.5	0.6009	109	70	130				
Boron	0.555	0.050	0.5	0.05868	99	70	130				
Calcium	76.5	1.0	25	51.46	100	70	130				
Magnesium	37.7	1.0	25	12.3	102	70	130				
Potassium	33.9	1.0	25	7.683	105	70	130				
Sodium	55.6	1.0	25	29.17	106	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 152** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011CMSD3** Method: **E200.7**

Analysis Date: **03/27/18 19:02** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.34	0.030	2.5	0.6009	109	70	130	3.314	0.7	20	
Boron	0.550	0.050	0.5	0.05868	98	70	130	0.5549	0.8	20	
Calcium	76.3	1.0	25	51.46	100	70	130	76.47	0.2	20	
Magnesium	37.7	1.0	25	12.3	102	70	130	37.69	0.0	20	
Potassium	33.9	1.0	25	7.683	105	70	130	33.88	0.0	20	
Sodium	55.4	1.0	25	29.17	105	70	130	55.59	0.3	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180326C: 185** SampType: **Method Blank** Lab ID: **MB-40908** Method: **E200.8**

Analysis Date: **03/26/18 23:45** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Barium	ND	0.0030									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Copper	ND	0.0010									
Iron	ND	0.020									
Lead	ND	0.00030									
Manganese	ND	0.0010									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									
Zinc	ND	0.0080									

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 193** SampType: **Sample Matrix Spike** Lab ID: **H18030365-001CMS3** Method: **E200.8**

Analysis Date: **03/27/18 00:02** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.030	2.5	0.01014	**104**	70	130				
Antimony	0.588	0.0010	0.5	0.00003684	**118**	70	130				
Arsenic	0.648	0.0010	0.5	0.00001901	**129**	70	130				
Barium	0.531	0.050	0.5	0	**106**	70	130				
Beryllium	0.279	0.0010	0.25	0	**112**	70	130				
Cadmium	0.266	0.0010	0.25	0	**107**	70	130				
Chromium	0.510	0.0050	0.5	0	**102**	70	130				
Cobalt	0.481	0.0050	0.5	0	**96**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180326C: 193** SampType: **Sample Matrix Spike** Lab ID: **H18030365-001CMS3** Method: **E200.8**

Analysis Date: **03/27/18 00:02** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.468	0.0050	0.5	0	94	70	130				
Iron	2.53	0.020	2.5	0	101	70	130				
Lead	0.527	0.0010	0.5	0	105	70	130				
Manganese	2.59	0.0010	2.5	0.0001974	104	70	130				
Molybdenum	0.529	0.0010	0.5	0	106	70	130				
Nickel	0.472	0.0050	0.5	0	94	70	130				
Selenium	0.529	0.0010	0.5	0	106	70	130				
Silver	0.0490	0.0010	0.05	0	98	70	130				
Uranium	0.530	0.00030	0.5	0	106	70	130				
Vanadium	0.526	0.010	0.5	0	105	70	130				
Zinc	0.551	0.010	0.5	0.002029	110	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 194** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-001CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 00:05** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.030	2.5	0.01014	104	70	130	2.602	0.0	20	
Antimony	0.592	0.0010	0.5	0.00003684	118	70	130	0.5885	0.6	20	
Arsenic	0.657	0.0010	0.5	0.00001901	131	70	130	0.6475	1.5	20	S
Barium	0.535	0.050	0.5	0	107	70	130	0.5313	0.7	20	
Beryllium	0.281	0.0010	0.25	0	112	70	130	0.2793	0.5	20	
Cadmium	0.267	0.0010	0.25	0	107	70	130	0.2665	0.2	20	
Chromium	0.518	0.0050	0.5	0	104	70	130	0.5098	1.5	20	
Cobalt	0.487	0.0050	0.5	0	97	70	130	0.4808	1.4	20	
Copper	0.475	0.0050	0.5	0	95	70	130	0.4678	1.5	20	
Iron	2.58	0.020	2.5	0	103	70	130	2.53	2.0	20	
Lead	0.533	0.0010	0.5	0	107	70	130	0.5266	1.1	20	
Manganese	2.63	0.0010	2.5	0.0001974	105	70	130	2.593	1.6	20	
Molybdenum	0.534	0.0010	0.5	0	107	70	130	0.529	1.0	20	
Nickel	0.477	0.0050	0.5	0	95	70	130	0.4721	1.1	20	
Selenium	0.535	0.0010	0.5	0	107	70	130	0.5291	1.0	20	
Silver	0.0493	0.0010	0.05	0	99	70	130	0.04905	0.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180326C: 194** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-001CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 00:05** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.530	0.00030	0.5	0	106	70	130	0.5298	0.1	20	
Vanadium	0.533	0.010	0.5	0	107	70	130	0.5264	1.2	20	
Zinc	0.554	0.010	0.5	0.002029	110	70	130	0.551	0.6	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 231** SampType: **Sample Matrix Spike** Lab ID: **H18030365-011CMS3** Method: **E200.8**

Analysis Date: **03/27/18 01:27** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.46	0.030	2.5	0.6302	113	70	130				
Antimony	0.595	0.0010	0.5	0.0005951	119	70	130				
Arsenic	0.674	0.0010	0.5	0.01651	131	70	130				S
Barium	0.581	0.050	0.5	0.05053	106	70	130				
Beryllium	0.277	0.0010	0.25	0	111	70	130				
Cadmium	0.263	0.0010	0.25	0.0005849	105	70	130				
Chromium	0.505	0.0050	0.5	0.0007654	101	70	130				
Cobalt	0.476	0.0050	0.5	0.0005098	95	70	130				
Copper	0.497	0.0050	0.5	0.03656	92	70	130				
Iron	3.39	0.020	2.5	0.7776	104	70	130				
Lead	0.531	0.0010	0.5	0.003841	105	70	130				
Manganese	2.91	0.0010	2.5	0.3444	103	70	130				
Molybdenum	0.537	0.0010	0.5	0.004472	107	70	130				
Nickel	0.466	0.0050	0.5	0	93	70	130				
Selenium	0.539	0.0010	0.5	0.0002808	108	70	130				
Silver	0.0483	0.0010	0.05	0.00009874	96	70	130				
Uranium	0.532	0.00030	0.5	0.004536	106	70	130				
Vanadium	0.528	0.010	0.5	0.002865	105	70	130				
Zinc	0.740	0.010	0.5	0.1948	109	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180326C: 232** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 01:29** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.44	0.030	2.5	0.6302	**112**	70	130	3.459	**0.5**	20	
Antimony	0.589	0.0010	0.5	0.0005951	**118**	70	130	0.5948	**1.0**	20	
Arsenic	0.663	0.0010	0.5	0.01651	**129**	70	130	0.6737	**1.6**	20	
Barium	0.578	0.050	0.5	0.05053	**106**	70	130	0.5807	**0.4**	20	
Beryllium	0.275	0.0010	0.25	0	**110**	70	130	0.2767	**0.8**	20	
Cadmium	0.262	0.0010	0.25	0.0005849	**105**	70	130	0.2634	**0.6**	20	
Chromium	0.500	0.0050	0.5	0.0007654	**100**	70	130	0.5051	**1.0**	20	
Cobalt	0.474	0.0050	0.5	0.0005098	**95**	70	130	0.4761	**0.4**	20	
Copper	0.494	0.0050	0.5	0.03656	**92**	70	130	0.4967	**0.5**	20	
Iron	3.36	0.020	2.5	0.7776	**103**	70	130	3.386	**0.8**	20	
Lead	0.529	0.0010	0.5	0.003841	**105**	70	130	0.5309	**0.3**	20	
Manganese	2.89	0.0010	2.5	0.3444	**102**	70	130	2.913	**0.8**	20	
Molybdenum	0.533	0.0010	0.5	0.004472	**106**	70	130	0.537	**0.8**	20	
Nickel	0.463	0.0050	0.5	0	**93**	70	130	0.4661	**0.6**	20	
Selenium	0.532	0.0010	0.5	0.0002808	**106**	70	130	0.5387	**1.2**	20	
Silver	0.0480	0.0010	0.05	0.00009874	**96**	70	130	0.04826	**0.5**	20	
Uranium	0.538	0.00030	0.5	0.004536	**107**	70	130	0.5324	**1.1**	20	
Vanadium	0.523	0.010	0.5	0.002865	**104**	70	130	0.528	**0.9**	20	
Zinc	0.726	0.010	0.5	0.1948	**106**	70	130	0.7405	**1.9**	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 151** SampType: **Method Blank** Lab ID: **MB-40908** Method: **E200.8**

Analysis Date: **03/27/18 17:10** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Barium	ND	0.0030									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180327A: 151** SampType: **Method Blank** Lab ID: **MB-40908** Method: **E200.8**

Analysis Date: **03/27/18 17:10** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0010									
Iron	ND	0.020									
Lead	ND	0.00030									
Manganese	ND	0.0010									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									
Zinc	ND	0.0080									

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 157** SampType: **Laboratory Control Sample** Lab ID: **LCS-40908** Method: **E200.8**

Analysis Date: **03/27/18 17:23** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.38	0.030	2.5	0	**95**	85	115				
Antimony	0.540	0.0010	0.5	0.00003087	**108**	85	115				
Arsenic	0.516	0.0010	0.5	0	**103**	85	115				
Barium	0.512	0.050	0.5	0	**102**	85	115				
Beryllium	0.247	0.0010	0.25	0	**99**	85	115				
Cadmium	0.252	0.0010	0.25	0	**101**	85	115				
Chromium	0.487	0.0050	0.5	0	**97**	85	115				
Cobalt	0.480	0.0050	0.5	0	**96**	85	115				
Copper	0.462	0.0050	0.5	0	**92**	85	115				
Iron	2.36	0.020	2.5	0	**95**	85	115				
Lead	0.512	0.0010	0.5	0	**102**	85	115				
Manganese	2.40	0.0010	2.5	0	**96**	85	115				
Molybdenum	0.521	0.0010	0.5	0	**104**	85	115				
Nickel	0.465	0.0050	0.5	0	**93**	85	115				
Selenium	0.499	0.0010	0.5	0	**100**	85	115				
Silver	0.0487	0.0010	0.05	0.00001146	**97**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180327A: 157** SampType: **Laboratory Control Sample** Lab ID: **LCS-40908** Method: **E200.8**

Analysis Date: **03/27/18 17:23** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.511	0.00030	0.5	0	102	85	115				
Vanadium	0.504	0.010	0.5	0	101	85	115				
Zinc	0.477	0.010	0.5	0	95	85	115				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 158** SampType: **Sample Matrix Spike** Lab ID: **H18030365-001CMS3** Method: **E200.8**

Analysis Date: **03/27/18 17:25** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.40	0.030	2.5	0.008771	96	70	130				
Antimony	0.538	0.0010	0.5	0.00003592	108	70	130				
Arsenic	0.516	0.0010	0.5	0	103	70	130				
Barium	0.510	0.050	0.5	0	102	70	130				
Beryllium	0.242	0.0010	0.25	0	97	70	130				
Cadmium	0.250	0.0010	0.25	0	100	70	130				
Chromium	0.485	0.0050	0.5	0	97	70	130				
Cobalt	0.479	0.0050	0.5	0	96	70	130				
Copper	0.461	0.0050	0.5	0	92	70	130				
Iron	2.35	0.020	2.5	0	94	70	130				
Lead	0.508	0.0010	0.5	0	102	70	130				
Manganese	2.40	0.0010	2.5	0	96	70	130				
Molybdenum	0.511	0.0010	0.5	0	102	70	130				
Nickel	0.463	0.0050	0.5	0	93	70	130				
Selenium	0.504	0.0010	0.5	0	101	70	130				
Silver	0.0483	0.0010	0.05	0	97	70	130				
Uranium	0.505	0.00030	0.5	0	101	70	130				
Vanadium	0.503	0.010	0.5	0	101	70	130				
Zinc	0.480	0.010	0.5	0.002219	96	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180327A: 159** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-001CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 17:27** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0.008771	95	70	130	2.399	0.4	20	
Antimony	0.540	0.0010	0.5	0.00003592	108	70	130	0.5376	0.4	20	
Arsenic	0.517	0.0010	0.5	0	103	70	130	0.5164	0.2	20	
Barium	0.513	0.050	0.5	0	103	70	130	0.5097	0.7	20	
Beryllium	0.241	0.0010	0.25	0	97	70	130	0.2419	0.2	20	
Cadmium	0.252	0.0010	0.25	0	101	70	130	0.2496	0.9	20	
Chromium	0.483	0.0050	0.5	0	97	70	130	0.4847	0.4	20	
Cobalt	0.481	0.0050	0.5	0	96	70	130	0.4792	0.3	20	
Copper	0.461	0.0050	0.5	0	92	70	130	0.4607	0.1	20	
Iron	2.37	0.020	2.5	0	95	70	130	2.353	0.8	20	
Lead	0.510	0.0010	0.5	0	102	70	130	0.5081	0.5	20	
Manganese	2.40	0.0010	2.5	0	96	70	130	2.396	0.3	20	
Molybdenum	0.514	0.0010	0.5	0	103	70	130	0.5111	0.6	20	
Nickel	0.464	0.0050	0.5	0	93	70	130	0.4634	0.2	20	
Selenium	0.503	0.0010	0.5	0	101	70	130	0.5038	0.2	20	
Silver	0.0483	0.0010	0.05	0	97	70	130	0.04826	0.1	20	
Uranium	0.511	0.00030	0.5	0	102	70	130	0.5046	1.3	20	
Vanadium	0.502	0.010	0.5	0	100	70	130	0.5033	0.3	20	
Zinc	0.481	0.010	0.5	0.002219	96	70	130	0.4798	0.3	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 184** SampType: **Sample Matrix Spike** Lab ID: **H18030365-011CMS3** Method: **E200.8**

Analysis Date: **03/27/18 18:23** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.19	0.030	2.5	0.5718	105	70	130				
Antimony	0.547	0.0010	0.5	0.0005422	109	70	130				
Arsenic	0.530	0.0010	0.5	0.01329	103	70	130				
Barium	0.568	0.050	0.5	0.05045	104	70	130				
Beryllium	0.241	0.0010	0.25	0	96	70	130				
Cadmium	0.250	0.0010	0.25	0.000562	100	70	130				
Chromium	0.474	0.0050	0.5	0.0006464	95	70	130				
Cobalt	0.473	0.0050	0.5	0.0005364	94	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180327A: 184** SampType: **Sample Matrix Spike** Lab ID: **H18030365-011CMS3** Method: **E200.8**

Analysis Date: **03/27/18 18:23** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.483	0.0050	0.5	0.03648	89	70	130				
Iron	3.12	0.020	2.5	0.7335	95	70	130				
Lead	0.516	0.0010	0.5	0.003775	103	70	130				
Manganese	2.67	0.0010	2.5	0.3232	94	70	130				
Molybdenum	0.522	0.0010	0.5	0.00447	103	70	130				
Nickel	0.454	0.0050	0.5	0	91	70	130				
Selenium	0.404	0.0010	0.5	0.0002057	81	70	130				
Silver	0.0479	0.0010	0.05	0.00009861	96	70	130				
Uranium	0.521	0.00030	0.5	0.00444	103	70	130				
Vanadium	0.499	0.010	0.5	0.002775	99	70	130				
Zinc	0.632	0.010	0.5	0.172	92	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 185** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 18:25** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.30	0.030	2.5	0.5718	109	70	130	3.19	3.3	20	
Antimony	0.566	0.0010	0.5	0.0005422	113	70	130	0.5469	3.4	20	
Arsenic	0.547	0.0010	0.5	0.01329	107	70	130	0.5299	3.2	20	
Barium	0.582	0.050	0.5	0.05045	106	70	130	0.568	2.5	20	
Beryllium	0.247	0.0010	0.25	0	99	70	130	0.2412	2.3	20	
Cadmium	0.256	0.0010	0.25	0.000562	102	70	130	0.2497	2.3	20	
Chromium	0.487	0.0050	0.5	0.0006464	97	70	130	0.4744	2.6	20	
Cobalt	0.482	0.0050	0.5	0.0005364	96	70	130	0.4728	1.9	20	
Copper	0.493	0.0050	0.5	0.03648	91	70	130	0.4832	2.0	20	
Iron	3.20	0.020	2.5	0.7335	99	70	130	3.115	2.8	20	
Lead	0.533	0.0010	0.5	0.003775	106	70	130	0.5165	3.1	20	
Manganese	2.76	0.0010	2.5	0.3232	97	70	130	2.674	3.0	20	
Molybdenum	0.534	0.0010	0.5	0.00447	106	70	130	0.5217	2.4	20	
Nickel	0.464	0.0050	0.5	0	93	70	130	0.4541	2.2	20	
Selenium	0.507	0.0010	0.5	0.0002057	101	70	130	0.4044	22	20	R
Silver	0.0487	0.0010	0.05	0.00009861	97	70	130	0.04786	1.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180327A: 185** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 18:25** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.537	0.00030	0.5	0.00444	**107**	70	130	0.5215	**3.0**	20	
Vanadium	0.512	0.010	0.5	0.002775	**102**	70	130	0.4994	**2.5**	20	
Zinc	0.648	0.010	0.5	0.172	**95**	70	130	0.6319	**2.5**	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180328A: 55** SampType: **Method Blank** Lab ID: **MB-40908** Method: **E200.8**

Analysis Date: **03/28/18 15:18** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Barium	ND	0.0030									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Copper	ND	0.0010									
Iron	ND	0.020									
Lead	ND	0.00030									
Manganese	ND	0.0010									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									
Zinc	ND	0.0080									

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180328A: 77** SampType: **Sample Matrix Spike** Lab ID: **H18030365-011CMS3** Method: **E200.8**

Analysis Date: **03/28/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.18	0.030	2.5	0.5943	103	70	130				
Antimony	0.513	0.0010	0.5	0.0004442	102	70	130				
Arsenic	0.538	0.0010	0.5	0.01329	105	70	130				
Barium	0.537	0.050	0.5	0.04699	98	70	130				
Beryllium	0.237	0.0010	0.25	0	95	70	130				
Cadmium	0.238	0.0010	0.25	0.0005196	95	70	130				
Chromium	0.483	0.0050	0.5	0.000697	97	70	130				
Cobalt	0.470	0.0050	0.5	0.0005207	94	70	130				
Copper	0.494	0.0050	0.5	0.03661	91	70	130				
Iron	3.24	0.020	2.5	0.7732	99	70	130				
Lead	0.486	0.0010	0.5	0.003514	97	70	130				
Manganese	2.77	0.0010	2.5	0.33	97	70	130				
Molybdenum	0.488	0.0010	0.5	0.004126	97	70	130				
Nickel	0.464	0.0050	0.5	0	93	70	130				
Selenium	0.486	0.0010	0.5	0.0002944	97	70	130				
Silver	0.0447	0.0010	0.05	0.00008395	89	70	130				
Uranium	0.501	0.00030	0.5	0.004222	99	70	130				
Vanadium	0.494	0.010	0.5	0.002699	98	70	130				
Zinc	0.649	0.010	0.5	0.1757	95	70	130				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180328A: 78** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011CMSD3** Method: **E200.8**

Analysis Date: **03/28/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.19	0.030	2.5	0.5943	104	70	130	3.176	0.3	20	
Antimony	0.515	0.0010	0.5	0.0004442	103	70	130	0.5128	0.4	20	
Arsenic	0.534	0.0010	0.5	0.01329	104	70	130	0.5377	0.7	20	
Barium	0.538	0.050	0.5	0.04699	98	70	130	0.5367	0.2	20	
Beryllium	0.237	0.0010	0.25	0	95	70	130	0.2366	0.0	20	
Cadmium	0.240	0.0010	0.25	0.0005196	96	70	130	0.2385	0.7	20	
Chromium	0.475	0.0050	0.5	0.000697	95	70	130	0.4834	1.8	20	
Cobalt	0.466	0.0050	0.5	0.0005207	93	70	130	0.4704	0.9	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40908

Run ID :Run Order: **ICPMS205-H_180328A: 78** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-011CMSD3** Method: **E200.8**

Analysis Date: **03/28/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.492	0.0050	0.5	0.03661	**91**	70	130	0.4941	**0.4**	20	
Iron	3.22	0.020	2.5	0.7732	**98**	70	130	3.242	**0.5**	20	
Lead	0.488	0.0010	0.5	0.003514	**97**	70	130	0.4865	**0.2**	20	
Manganese	2.74	0.0010	2.5	0.33	**96**	70	130	2.767	**1.2**	20	
Molybdenum	0.490	0.0010	0.5	0.004126	**97**	70	130	0.4879	**0.3**	20	
Nickel	0.460	0.0050	0.5	0	**92**	70	130	0.464	**0.8**	20	
Selenium	0.481	0.0010	0.5	0.0002944	**96**	70	130	0.4864	**1.1**	20	
Silver	0.0450	0.0010	0.05	0.00008395	**90**	70	130	0.04467	**0.7**	20	
Uranium	0.501	0.00030	0.5	0.004222	**99**	70	130	0.5008	**0.0**	20	
Vanadium	0.486	0.010	0.5	0.002699	**97**	70	130	0.4937	**1.6**	20	
Zinc	0.646	0.010	0.5	0.1757	**94**	70	130	0.6489	**0.4**	20	

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40919

Run ID :Run Order: **FIA203-HE_180327A: 67** SampType: **Laboratory Control Sample** Lab ID: **LCS-40919** Method: **A4500 N-C**
Analysis Date: **03/27/18 10:19** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	15.0	0.30	14	0.0231	107	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 68** SampType: **Method Blank** Lab ID: **MB-40919** Method: **A4500 N-C**
Analysis Date: **03/27/18 10:20** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.050									

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 114** SampType: **Sample Matrix Spike** Lab ID: **H18030365-004AMS** Method: **A4500 N-C**
Analysis Date: **03/27/18 11:15** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	13.5	0.30	10	3.528	100	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 115** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-004AMSD** Method: **A4500 N-C**
Analysis Date: **03/27/18 11:16** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	13.3	0.30	10	3.528	98	90	110	13.48	1.2	20	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40924

Run ID :Run Order: **HGCV202-H_180328A: 45** SampType: **Method Blank** Lab ID: **MB-40945** Method: **E245.1**
Analysis Date: **03/29/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: **3/28/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C**

Run ID :Run Order: **HGCV202-H_180328A: 47** SampType: **Laboratory Control Sample** Lab ID: **LCS-40924** Method: **E245.1**
Analysis Date: **03/29/18 11:28** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.75E-05	0.00010	0.000075	0	103	90	110				

Associated samples: **H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C**

Run ID :Run Order: **HGCV202-H_180328A: 53** SampType: **Sample Matrix Spike** Lab ID: **H18030365-007CMS** Method: **E245.1**
Analysis Date: **03/29/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: **3/28/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.87E-05	0.00010	0.000075	0.00002165	103	70	130				

Associated samples: **H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C**

Run ID :Run Order: **HGCV202-H_180328A: 54** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-007CMSD** Method: **E245.1**
Analysis Date: **03/29/18 11:50** Units: **mg/L** **Prep Info:** Prep Date: **3/28/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.62E-05	5.0E-05	0.000075	0.00002165	99	70	130	0.00009871	2.6	20	

Associated samples: **H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C**

Run ID :Run Order: **HGCV202-H_180328A: 66** SampType: **Sample Matrix Spike** Lab ID: **H18030398-001CMS** Method: **E245.1**
Analysis Date: **03/29/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: **3/28/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.13E-05	0.00010	0.000075	0.00000124	107	70	130				

Associated samples: **H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40924

Run ID :Run Order: **HGCV202-H_180328A: 67** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030398-001CMSD** Method: **E245.1**

Analysis Date: **03/29/18 12:53** Units: **mg/L** **Prep Info:** Prep Date: **3/28/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.05E-05	5.0E-05	0.000075	0.00000124	**106**	70	130	0.00008134	**1.1**	20	

Associated samples: **H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40927

Run ID :Run Order: **FIA202-HE_180327A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-40927** Method: **E365.1**
Analysis Date: **03/27/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.403	0.010	0.4	0	101	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D**

Run ID :Run Order: **FIA202-HE_180327A: 43** SampType: **Method Blank** Lab ID: **MB-40927** Method: **E365.1**
Analysis Date: **03/27/18 13:54** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0030									

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D**

Run ID :Run Order: **FIA202-HE_180327A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18030365-004DMS** Method: **E365.1**
Analysis Date: **03/27/18 14:10** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.323	0.010	0.2	0.1235	100	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D**

Run ID :Run Order: **FIA202-HE_180327A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-004DMSD** Method: **E365.1**
Analysis Date: **03/27/18 14:11** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.317	0.010	0.2	0.1235	97	90	110	0.323	1.8	20	

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40928

Run ID :Run Order: **FIA202-HE_180327A: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-40928** Method: **E365.1**
Analysis Date: **03/27/18 14:24** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.405	0.010	0.4	0	101	90	110				

Associated samples: **H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 73** SampType: **Method Blank** Lab ID: **MB-40928** Method: **E365.1**
Analysis Date: **03/27/18 14:25** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0030									

Associated samples: **H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 75** SampType: **Sample Matrix Spike** Lab ID: **H18030365-014DMS** Method: **E365.1**
Analysis Date: **03/27/18 14:27** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.467	0.010	0.2	0.2671	100	90	110				

Associated samples: **H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 76** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-014DMSD** Method: **E365.1**
Analysis Date: **03/27/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.452	0.010	0.2	0.2671	92	90	110	0.4666	3.2	20	

Associated samples: **H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40958

Run ID :Run Order: **HGCV201-H_180405A: 10** SampType: **Method Blank** Lab ID: **MB-40958** Method: **SW7471B**
Analysis Date: **04/05/18 12:04** Units: **mg/kg** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-40958** Method: **SW7471B**
Analysis Date: **04/05/18 12:06** Units: **mg/kg** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.5	0.50	5	0	110	71	126.4				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-40958** Method: **SW7471B**
Analysis Date: **04/05/18 12:08** Units: **mg/kg** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.19	0.50	0.196	0	96	80	120				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 16** SampType: **Sample Matrix Spike** Lab ID: **H18030365-018AMS** Method: **SW7471B**
Analysis Date: **04/05/18 12:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.25	0.50	0.2489	0.07897	68	80	120				S

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-018AMSD** Method: **SW7471B**
Analysis Date: **04/05/18 12:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.31	0.20	0.2593	0.07897	89	80	120	0.249	21	20	R

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40958

Run ID :Run Order: **HGCV201-H_180405A: 20** SampType: **Sample Matrix Spike** Lab ID: **H18030365-019AMS** Method: **SW7471B**
Analysis Date: **04/05/18 12:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.20	0.2516	0.02568	69	80	120				S

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 21** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-019AMSD** Method: **SW7471B**
Analysis Date: **04/05/18 12:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.10	0.2516	0.02568	70	80	120	0.1999	1.4	20	S

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 92** SampType: **Sample Matrix Spike** Lab ID: **H18030365-023AMS** Method: **SW7471B**
Analysis Date: **04/05/18 16:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.9	0.50	0.5888	1.332	98	80	120				

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Run ID :Run Order: **HGCV201-H_180405A: 93** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-023AMSD** Method: **SW7471B**
Analysis Date: **04/05/18 16:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.9	0.50	0.5829	1.332	94	80	120	1.907	1.4	20	

Associated samples: **H18030365-017A, H18030365-018A, H18030365-019A, H18030365-020A, H18030365-021A, H18030365-022A, H18030365-023A, H18030365-024A, H18030365-025A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40964

Run ID :Run Order: **FIA203-HE_180330A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-40964** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:18** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	14.8	0.30	14	0.04562	106	90	110				

Associated samples: **H18030365-003A, H18030365-007A, H18030365-012A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **FIA203-HE_180330A: 16** SampType: **Sample Matrix Spike** Lab ID: **H18030365-012AMS** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:24** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.996	0.10	1	0	100	90	110				

Associated samples: **H18030365-003A, H18030365-007A, H18030365-012A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **FIA203-HE_180330A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-012AMSD** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:25** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.01	0.10	1	0	101	90	110	0.9959	1.4	20	

Associated samples: **H18030365-003A, H18030365-007A, H18030365-012A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **FIA203-HE_180330A: 25** SampType: **Method Blank** Lab ID: **MB-40964** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:35** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.050									

Associated samples: **H18030365-003A, H18030365-007A, H18030365-012A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICP2-HE_180403B: 91** SampType: **Method Blank** Lab ID: **MB-40967** Method: **SW6010B**

Analysis Date: **04/03/18 14:43** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Barium	0.0690	0.0030									
Copper	ND	0.0010									
Iron	102	0.020									
Manganese	0.355	0.0010									
Zinc	0.241	0.0080									

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICP2-HE_180403B: 92** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-40967** Method: **SW6010B**

Analysis Date: **04/03/18 14:47** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	255	5.0	252.5	0	101	80	120				
Barium	50.5	1.0	50.5	0.06905	100	80	120				
Copper	50.9	1.0	50.5	0	101	80	120				
Iron	332	7.7	252.5	102.4	91	80	120				
Manganese	251	1.0	252.5	0.3553	99	80	120				
Zinc	48.4	1.0	50.5	0.2409	95	80	120				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICP2-HE_180403B: 93** SampType: **Laboratory Control Sample** Lab ID: **LCS-40967** Method: **SW6010B**

Analysis Date: **04/03/18 14:50** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9240	5.0	9830	0	94	46.3	130.2				
Barium	168	1.0	187	0.06905	90	78.6	112.8				
Copper	122	1.7	137	0	89	76.6	108.8				
Iron	15700	38	16300	102.4	96	51.7	131.9				
Manganese	417	1.0	434	0.3553	96	81.1	116.6				
Zinc	229	1.0	231	0.2409	99	75.3	111.7				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICP2-HE_180403B: 116** SampType: **Serial Dilution** Lab ID: **H18030365-023ADIL** Method: **SW6010B**

Analysis Date: **04/03/18 16:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	13100	67		0		0	0	13370	**2.3**	10	
Barium	222	4.6		0		0	0	224.3	**1.3**	10	
Copper	589	25		0		0	0	607.1	**3.0**	10	
Iron	22800	560		0		0	0	23120	**1.3**	10	
Manganese	2010	6.0		0		0	0	2036	**1.1**	10	
Zinc	1740	7.5		0		0	0	1783	**2.6**	10	

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICP2-HE_180403B: 117** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-023APDS** Method: **SW6010B**

Analysis Date: **04/03/18 16:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	17600	14	3783	13370	**111**	75	125				
Barium	962	1.0	756.6	224.3	**97**	75	125				
Copper	1370	5.2	756.6	607.1	**100**	75	125				
Iron	27200	110	3783	23120		75	125				A
Manganese	5760	1.2	3783	2036	**98**	75	125				
Zinc	2490	1.5	756.6	1783	**94**	75	125				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICP2-HE_180403B: 118** SampType: **Sample Matrix Spike** Lab ID: **H18030365-023AMS** Method: **SW6010B**

Analysis Date: **04/03/18 16:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	18800	13	736	13370		75	125				A
Barium	403	1.0	147.2	224.3	**122**	75	125				
Copper	810	5.1	147.2	607.1		75	125				A
Iron	26800	110	736	23120		75	125				A
Manganese	3000	1.2	736	2036	**131**	75	125				S
Zinc	1980	1.5	147.2	1783		75	125				A

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICP2-HE_180403B: 119** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-023AMSD** Method: **SW6010B**

Analysis Date: **04/03/18 16:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	22500	13	736	13370		75	125	18840	18	20	A
Barium	464	1.0	147.2	224.3	163	75	125	403.4	14	20	S
Copper	871	5.1	147.2	607.1		75	125	810.5	7.2	20	A
Iron	32400	110	736	23120		75	125	26840	19	20	A
Manganese	3190	1.2	736	2036	157	75	125	3001	6.1	20	S
Zinc	2150	1.5	147.2	1783		75	125	1978	8.4	20	A

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICPMS205-H_180403C: 54** SampType: **Method Blank** Lab ID: **MB-40967** Method: **SW6020**

Analysis Date: **04/03/18 18:39** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Boron	ND	0.10									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICPMS205-H_180403C: 58** SampType: **Serial Dilution** Lab ID: **H18030365-023ADIL** Method: **SW6020**

Analysis Date: **04/03/18 18:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.5679		10	
Arsenic	45.0	6.9		0		0	0	44.73		10	N
Beryllium	ND	2.5		0		0	0	0		10	
Boron	ND	12		0		0	0	6.423		10	
Cadmium	9.84	1.0		0		0	0	9.509	3.4	10	
Chromium	31.0	6.9		0		0	0	30.35		10	N
Cobalt	9.39	1.0		0		0	0	9.346	0.5	10	
Lead	233	1.0		0		0	0	227.4	2.4	10	
Molybdenum	8.12	1.4		0		0	0	8.147		10	N
Nickel	18.1	1.6		0		0	0	17.94	1.1	10	
Selenium	ND	3.1		0		0	0	1.526		10	
Silver	ND	6.3		0		0	0	3.429		10	
Uranium	4.94	1.0		0		0	0	5.01		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICPMS205-H_180403C: 58** SampType: **Serial Dilution** Lab ID: **H18030365-023ADIL** Method: **SW6020**

Analysis Date: **04/03/18 18:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	40.6	2.4		0		0	0	43.9	**7.8**	10	

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICPMS205-H_180403C: 59** SampType: **Laboratory Control Sample** Lab ID: **LCS-40967** Method: **SW6020**

Analysis Date: **04/03/18 18:50** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	56.5	1.0	240	0	**24**	0	92.9				
Arsenic	166	1.0	196	0	**85**	71.4	105.1				
Beryllium	78.3	1.0	83.6	0	**94**	76.2	108				
Boron	98.0	1.0	129	0	**76**	59.5	106.2				
Cadmium	96.7	1.0	99	0	**98**	73.9	106.1				
Chromium	104	1.0	117	0	**89**	73.5	108.5				
Cobalt	105	1.0	108	0	**98**	74.2	105.6				
Lead	105	1.0	105	0	**100**	74.4	108.6				
Molybdenum	113	1.0	127	0	**89**	66.5	103.1				
Nickel	80.8	1.0	86.2	0	**94**	72.3	105				
Selenium	194	1.0	205	0	**95**	71.2	110.2				
Silver	41.8	1.0	42.1	0	**99**	70.8	111.9				
Uranium	96.6	1.0	99.9	0	**97**	80.1	120.1				
Vanadium	100	1.0	114	0	**88**	67	107				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICPMS205-H_180403C: 60** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-40967** Method: **SW6020**

Analysis Date: **04/03/18 18:52** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.0	1.0	50.5	0	**103**	80	120				
Arsenic	49.7	1.0	50.5	0	**98**	80	120				
Beryllium	26.1	1.0	25.25	0	**103**	80	120				
Boron	48.5	1.0	50.5	0	**96**	80	120				
Cadmium	25.8	1.0	25.25	0	**102**	80	120				
Chromium	47.5	1.0	50.5	0	**94**	80	120				
Cobalt	50.1	1.0	50.5	0	**99**	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICPMS205-H_180403C: 60** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-40967** Method: **SW6020**

Analysis Date: **04/03/18 18:52** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.7	1.0	50.5	0	100	80	120				
Molybdenum	50.1	1.0	50.5	0	99	80	120				
Nickel	51.3	1.0	50.5	0	102	80	120				
Selenium	50.4	1.0	50.5	0	100	80	120				
Silver	26.6	1.0	25.25	0	105	80	120				
Uranium	49.5	1.0	50.5	0	98	80	120				
Vanadium	46.3	1.0	50.5	0	92	80	120				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICPMS205-H_180403C: 61** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-023APDS1** Method: **SW6020**

Analysis Date: **04/03/18 18:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	74.3	1.0	73.45	0.5679	100	75	125				
Arsenic	116	1.4	73.45	44.73	97	75	125				
Beryllium	70.9	1.0	73.45	0	97	75	125				
Boron	76.8	2.5	73.45	6.423	96	75	125				
Cadmium	83.1	1.0	73.45	9.509	100	75	125				
Chromium	97.7	1.4	73.45	30.35	92	75	125				
Cobalt	80.2	1.0	73.45	9.346	96	75	125				
Lead	304	1.0	73.45	227.4	104	75	125				
Molybdenum	79.9	1.0	73.45	8.147	98	75	125				
Nickel	90.6	1.0	73.45	17.94	99	75	125				
Selenium	73.2	1.0	73.45	1.526	98	75	125				
Silver	34.0	1.3	29.38	3.429	104	75	125				
Uranium	74.6	1.0	73.45	5.01	95	75	125				
Vanadium	110	1.0	73.45	43.9	90	75	125				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICPMS205-H_180403C: 62** SampType: **Sample Matrix Spike** Lab ID: **H18030365-023AMS** Method: **SW6020**

Analysis Date: **04/03/18 18:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	92.7	1.0	147.2	0.5679	63	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICPMS205-H_180403C: 62** SampType: **Sample Matrix Spike** Lab ID: **H18030365-023AMS** Method: **SW6020**

Analysis Date: **04/03/18 18:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	196	1.4	147.2	44.73	103	75	125				
Beryllium	76.3	1.0	73.6	0	104	75	125				
Boron	144	2.5	147.2	6.423	94	75	125				
Cadmium	86.4	1.0	73.6	9.509	105	75	125				
Chromium	176	1.4	147.2	30.35	99	75	125				
Cobalt	158	1.0	147.2	9.346	101	75	125				
Lead	410	1.0	147.2	227.4	124	75	125				
Molybdenum	154	1.0	147.2	8.147	99	75	125				
Nickel	171	1.0	147.2	17.94	104	75	125				
Selenium	148	1.0	147.2	1.526	99	75	125				
Silver	81.4	1.3	73.6	3.429	106	75	125				
Uranium	151	1.0	147.2	5.01	99	75	125				
Vanadium	189	1.0	147.2	43.9	99	75	125				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180403C: 63** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-023AMSD** Method: **SW6020**

Analysis Date: **04/03/18 18:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	76.2	1.0	147.2	0.5679	51	75	125	92.67	19	20	S
Arsenic	197	1.4	147.2	44.73	103	75	125	196.3	0.2	20	
Beryllium	75.3	1.0	73.6	0	102	75	125	76.26	1.3	20	
Boron	139	2.5	147.2	6.423	90	75	125	144.2	3.9	20	
Cadmium	83.9	1.0	73.6	9.509	101	75	125	86.43	3.0	20	
Chromium	173	1.4	147.2	30.35	97	75	125	175.5	1.3	20	
Cobalt	153	1.0	147.2	9.346	98	75	125	158.4	3.5	20	
Lead	406	1.0	147.2	227.4	122	75	125	410	0.9	20	
Molybdenum	150	1.0	147.2	8.147	96	75	125	154.4	2.8	20	
Nickel	165	1.0	147.2	17.94	100	75	125	170.8	3.2	20	
Selenium	140	1.0	147.2	1.526	94	75	125	147.8	5.2	20	
Silver	80.3	1.3	73.6	3.429	104	75	125	81.39	1.3	20	
Uranium	146	1.0	147.2	5.01	96	75	125	151	3.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40967

Run ID :Run Order: **ICPMS205-H_180403C: 63** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-023AMSD** Method: **SW6020**

Analysis Date: **04/03/18 18:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	192	1.0	147.2	43.9	101	75	125	189.1	1.5	20	

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180404B: 31** SampType: **Method Blank** Lab ID: **MB-40967** Method: **SW6020**

Analysis Date: **04/04/18 13:28** Units: **mg/kg** **Prep Info:** Prep Date: **3/30/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.107	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Boron	ND	0.10									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40987

Run ID :Run Order: **HGCV201-H_180405A: 33** SampType: **Method Blank** Lab ID: **MB-40987** Method: **SW7471B**
Analysis Date: **04/05/18 12:50** Units: **mg/kg** **Prep Info:** Prep Date: **4/2/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **HGCV201-H_180405A: 34** SampType: **Laboratory Control Sample** Lab ID: **LCS-40987** Method: **SW7471B**
Analysis Date: **04/05/18 12:52** Units: **mg/kg** **Prep Info:** Prep Date: **4/2/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0	111	71	126.4				

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **HGCV201-H_180405A: 35** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-40987** Method: **SW7471B**
Analysis Date: **04/05/18 12:54** Units: **mg/kg** **Prep Info:** Prep Date: **4/2/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.2	0	103	80	120				

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **HGCV201-H_180405A: 38** SampType: **Sample Matrix Spike** Lab ID: **H18030496-010AMS** Method: **SW7471B**
Analysis Date: **04/05/18 13:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.34	0.50	0.2608	0.07375	103	80	120				

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **HGCV201-H_180405A: 39** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030496-010AMSD** Method: **SW7471B**
Analysis Date: **04/05/18 13:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.31	0.30	0.2608	0.07375	92	80	120	0.3427	8.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 40987

Run ID :Run Order: **HGCV201-H_180405A: 39** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030496-010AMSD** Method: **SW7471B**

Analysis Date: **04/05/18 13:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **HGCV201-H_180405A: 51** SampType: **Sample Matrix Spike** Lab ID: **H18030365-041AMS** Method: **SW7471B**

Analysis Date: **04/05/18 14:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.5	0.50	0.8172	0.8524	**85**	80	120				

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **HGCV201-H_180405A: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-041AMSD** Method: **SW7471B**

Analysis Date: **04/05/18 14:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.6	0.50	0.8086	0.8524	**93**	80	120	1.545	**3.7**	20	

Associated samples: **H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICP2-HE_180404B: 98** SampType: **Method Blank** Lab ID: **MB-41005** Method: **SW6010B**

Analysis Date: **04/04/18 21:12** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Copper	ND	0.0010									
Iron	ND	0.020									
Manganese	0.0936	0.0010									
Zinc	0.471	0.0080									

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180404B: 99** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41005** Method: **SW6010B**

Analysis Date: **04/04/18 21:16** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	255	5.0	246.8	0	103	80	120				
Copper	51.0	1.0	49.35	0	103	80	120				
Iron	257	7.5	246.8	0	104	80	120				
Manganese	248	1.0	246.8	0.09362	100	80	120				
Zinc	48.5	1.0	49.35	0.4706	97	80	120				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180404B: 100** SampType: **Laboratory Control Sample** Lab ID: **LCS-41005** Method: **SW6010B**

Analysis Date: **04/04/18 21:19** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9570	5.0	9633	0	99	46.3	130.2				
Copper	124	1.7	134.3	0	93	76.6	108.8				
Iron	15800	37	15970	0	99	51.7	131.9				
Manganese	412	1.0	425.3	0.09362	97	81.1	116.6				
Zinc	233	1.0	226.4	0.4706	103	75.3	111.7				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICP2-HE_180404B: 109** SampType: **Serial Dilution** Lab ID: **H18030365-041ADIL** Method: **SW6010B**

Analysis Date: **04/04/18 21:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	22500	93		0		0	0	22830	1.2	10	
Copper	853	35		0		0	0	865.9	1.5	10	
Iron	27900	780		0		0	0	27750	0.5	10	
Manganese	6120	8.4		0		0	0	6076	0.6	10	
Zinc	2590	10		0		0	0	2481	4.3	10	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180404B: 110** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-041APDS** Method: **SW6010B**

Analysis Date: **04/04/18 21:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	28300	19	5260	22830		75	125				A
Copper	1890	7.3	1052	865.9	97	75	125				
Iron	32700	160	5260	27750		75	125				A
Manganese	11000	1.7	5260	6076	93	75	125				
Zinc	3480	2.2	1052	2481	95	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180404B: 111** SampType: **Sample Matrix Spike** Lab ID: **H18030365-041AMS** Method: **SW6010B**

Analysis Date: **04/04/18 22:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	30400	18	1009	22830		75	125				A
Copper	1110	7.0	201.7	865.9		75	125				A
Iron	31400	150	1009	27750		75	125				A
Manganese	7280	1.6	1009	6076		75	125				A
Zinc	2700	2.1	201.7	2481		75	125				A

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICP2-HE_180404B: 112** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-041AMSD** Method: **SW6010B**

Analysis Date: **04/04/18 22:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	30800	18	1018	22830		75	125	30420	**1.2**	20	A
Copper	1120	7.1	203.6	865.9		75	125	1108	**1.3**	20	A
Iron	31500	150	1018	27750		75	125	31360	**0.6**	20	A
Manganese	7350	1.7	1018	6076		75	125	7282	**1.0**	20	A
Zinc	2740	2.1	203.6	2481		75	125	2700	**1.4**	20	A

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 68** SampType: **Method Blank** Lab ID: **MB-41005** Method: **SW6020**

Analysis Date: **04/04/18 14:50** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0762	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Boron	ND	0.10									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	0.264	0.10									

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 74** SampType: **Laboratory Control Sample** Lab ID: **LCS-41005** Method: **SW6020**

Analysis Date: **04/04/18 15:04** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	73.4	1.0	235.2	0.07624	**31**	0	92.9				
Arsenic	168	1.0	192.1	0	**87**	71.4	105.1				
Beryllium	78.4	1.0	81.93	0	**96**	76.2	108				
Boron	113	1.0	126.4	0	**89**	59.5	106.2				
Cadmium	96.2	1.0	97.02	0	**99**	73.9	106.1				
Chromium	109	1.0	114.7	0	**95**	73.5	108.5				
Cobalt	109	1.0	105.8	0	**103**	74.2	105.6				
Lead	103	1.0	102.9	0	**100**	74.4	108.6				
Molybdenum	115	1.0	124.5	0	**92**	66.5	103.1				
Nickel	83.0	1.0	84.48	0	**98**	72.3	105				
Selenium	195	1.0	200.9	0	**97**	71.2	110.2				
Silver	41.3	1.0	41.26	0	**100**	70.8	111.9				
Uranium	95.6	1.0	97.9	0	**98**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 74** SampType: **Laboratory Control Sample** Lab ID: **LCS-41005** Method: **SW6020**

Analysis Date: **04/04/18 15:04** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	106	1.0	111.7	0.2641	95	67	107				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 75** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41005** Method: **SW6020**

Analysis Date: **04/04/18 15:06** Units: **mg/kg** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.9	1.0	49.35	0	105	80	120				
Arsenic	50.0	1.0	49.35	0	101	80	120				
Beryllium	25.2	1.0	24.68	0	102	80	120				
Boron	54.1	1.0	49.35	0	110	80	120				
Cadmium	25.2	1.0	24.68	0	102	80	120				
Chromium	49.7	1.0	49.35	0	101	80	120				
Cobalt	51.0	1.0	49.35	0	103	80	120				
Lead	50.8	1.0	49.35	0	103	80	120				
Molybdenum	48.7	1.0	49.35	0	99	80	120				
Nickel	51.8	1.0	49.35	0	105	80	120				
Selenium	49.6	1.0	49.35	0	101	80	120				
Silver	25.3	1.0	24.68	0	102	80	120				
Uranium	48.8	1.0	49.35	0	99	80	120				
Vanadium	48.8	1.0	49.35	0	99	80	120				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 81** SampType: **Serial Dilution** Lab ID: **H18030365-041ADIL** Method: **SW6020**

Analysis Date: **04/04/18 15:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.4		0		0	0	0.8797		10	
Arsenic	48.0	9.8		0		0	0	47.07		10	N
Beryllium	ND	3.6		0		0	0	0.9557		10	
Boron	24.4	17		0		0	0	18.79		10	N
Cadmium	11.2	1.0		0		0	0	11.03	1.9	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 81** SampType: **Serial Dilution** Lab ID: **H18030365-041ADIL** Method: **SW6020**

Analysis Date: **04/04/18 15:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	35.1	9.8		0		0	0	33.28		10	N
Cobalt	15.2	1.2		0		0	0	14.62	**3.8**	10	
Lead	177	1.4		0		0	0	170.9	**3.3**	10	
Molybdenum	5.55	2.0		0		0	0	5.716		10	N
Nickel	20.9	2.3		0		0	0	20.19		10	N
Selenium	ND	4.4		0		0	0	2.094		10	
Silver	ND	9.0		0		0	0	2.247		10	
Uranium	3.76	1.4		0		0	0	3.679		10	N
Vanadium	54.2	3.4		0		0	0	54.07	**0.2**	10	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 87** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-041APDS1** Method: **SW6020**

Analysis Date: **04/04/18 15:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	105	1.0	104.1	0.8797	**100**	75	125				
Arsenic	148	2.0	104.1	47.07	**97**	75	125				
Beryllium	98.9	1.0	104.1	0.9557	**94**	75	125				
Boron	113	3.5	104.1	18.79	**91**	75	125				
Cadmium	112	1.0	104.1	11.03	**97**	75	125				
Chromium	132	2.0	104.1	33.28	**95**	75	125				
Cobalt	116	1.0	104.1	14.62	**97**	75	125				
Lead	278	1.0	104.1	170.9	**103**	75	125				
Molybdenum	103	1.0	104.1	5.716	**94**	75	125				
Nickel	123	1.0	104.1	20.19	**99**	75	125				
Selenium	99.8	1.0	104.1	2.094	**94**	75	125				
Silver	42.9	1.8	41.63	2.247	**98**	75	125				
Uranium	101	1.0	104.1	3.679	**94**	75	125				
Vanadium	152	1.0	104.1	54.07	**94**	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 88** SampType: **Sample Matrix Spike** Lab ID: **H18030365-041AMS** Method: **SW6020**

Analysis Date: **04/04/18 15:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	121	1.0	201.7	0.8797	59	75	125				S
Arsenic	256	1.9	201.7	47.07	104	75	125				
Beryllium	101	1.0	100.9	0.9557	100	75	125				
Boron	218	3.4	201.7	18.79	99	75	125				
Cadmium	115	1.0	100.9	11.03	103	75	125				
Chromium	244	1.9	201.7	33.28	104	75	125				
Cobalt	224	1.0	201.7	14.62	104	75	125				
Lead	395	1.0	201.7	170.9	111	75	125				
Molybdenum	203	1.0	201.7	5.716	98	75	125				
Nickel	234	1.0	201.7	20.19	106	75	125				
Selenium	200	1.0	201.7	2.094	98	75	125				
Silver	105	1.7	100.9	2.247	102	75	125				
Uranium	207	1.0	201.7	3.679	101	75	125				
Vanadium	263	1.0	201.7	54.07	104	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180404B: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-041AMSD** Method: **SW6020**

Analysis Date: **04/04/18 15:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	123	1.0	203.6	0.8797	60	75	125	120.5	1.8	20	S
Arsenic	253	1.9	203.6	47.07	101	75	125	256.2	1.3	20	
Beryllium	102	1.0	101.8	0.9557	99	75	125	101.4	0.2	20	
Boron	224	3.4	203.6	18.79	101	75	125	218.4	2.6	20	
Cadmium	113	1.0	101.8	11.03	100	75	125	114.6	1.4	20	
Chromium	241	1.9	203.6	33.28	102	75	125	243.7	1.2	20	
Cobalt	222	1.0	203.6	14.62	102	75	125	223.9	0.8	20	
Lead	394	1.0	203.6	170.9	109	75	125	394.9	0.3	20	
Molybdenum	201	1.0	203.6	5.716	96	75	125	203.3	0.9	20	
Nickel	231	1.0	203.6	20.19	104	75	125	234.2	1.2	20	
Selenium	201	1.0	203.6	2.094	98	75	125	200.1	0.4	20	
Silver	104	1.8	101.8	2.247	100	75	125	105.5	1.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-041AMSD** Method: **SW6020**

Analysis Date: **04/04/18 15:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	202	1.0	203.6	3.679	**98**	75	125	206.5	**2.1**	20	
Vanadium	260	1.0	203.6	54.07	**101**	75	125	263	**1.2**	20	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180404B: 96** SampType: **Serial Dilution** Lab ID: **H18030496-010ADIL** Method: **SW6020**

Analysis Date: **04/04/18 15:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.143		10	
Arsenic	5.44	2.8		0		0	0	6.072		10	N
Beryllium	ND	1.0		0		0	0	0.6029		10	
Boron	16.2	5.1		0		0	0	15.48		10	N
Cadmium	ND	1.0		0		0	0	0.1865		10	
Chromium	17.0	2.8		0		0	0	18.39		10	N
Cobalt	6.29	1.0		0		0	0	6.782	**7.5**	10	
Lead	17.3	1.0		0		0	0	19.1	**9.8**	10	
Molybdenum	ND	1.0		0		0	0	0.3739		10	
Nickel	14.7	1.0		0		0	0	15.73	**6.5**	10	
Selenium	ND	1.3		0		0	0	0.3123		10	
Silver	ND	2.6		0		0	0	0		10	
Uranium	0.611	1.0		0		0	0	0.6795		10	N
Vanadium	29.0	1.0		0		0	0	32.48	**11**	10	R

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 97** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030496-010APDS1** Method: **SW6020**

Analysis Date: **04/04/18 15:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	30.2	1.0	30.24	0.143	**99**	75	125				
Arsenic	34.0	1.0	30.24	6.072	**92**	75	125				
Beryllium	28.4	1.0	30.24	0.6029	**92**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 97** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030496-010APDS1** Method: **SW6020**

Analysis Date: **04/04/18 15:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	40.1	1.0	30.24	15.48	81	75	125				
Cadmium	28.9	1.0	30.24	0.1865	95	75	125				
Chromium	44.8	1.0	30.24	18.39	87	75	125				
Cobalt	34.7	1.0	30.24	6.782	92	75	125				
Lead	46.1	1.0	30.24	19.1	89	75	125				
Molybdenum	28.5	1.0	30.24	0.3739	93	75	125				
Nickel	43.1	1.0	30.24	15.73	90	75	125				
Selenium	28.3	1.0	30.24	0.3123	93	75	125				
Silver	11.8	1.0	12.1	0	97	75	125				
Uranium	29.3	1.0	30.24	0.6795	95	75	125				
Vanadium	57.2	1.0	30.24	32.48	82	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 98** SampType: **Sample Matrix Spike** Lab ID: **H18030496-010AMS** Method: **SW6020**

Analysis Date: **04/04/18 15:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	29.0	1.0	64.5	0.143	45	75	125				S
Arsenic	71.4	1.0	64.5	6.072	101	75	125				
Beryllium	32.7	1.0	32.25	0.6029	100	75	125				
Boron	80.0	1.1	64.5	15.48	100	75	125				
Cadmium	32.6	1.0	32.25	0.1865	101	75	125				
Chromium	88.3	1.0	64.5	18.39	108	75	125				
Cobalt	72.1	1.0	64.5	6.782	101	75	125				
Lead	86.7	1.0	64.5	19.1	105	75	125				
Molybdenum	63.1	1.0	64.5	0.3739	97	75	125				
Nickel	81.8	1.0	64.5	15.73	102	75	125				
Selenium	64.0	1.0	64.5	0.3123	99	75	125				
Silver	32.4	1.0	32.25	0	100	75	125				
Uranium	67.3	1.0	64.5	0.6795	103	75	125				
Vanadium	107	1.0	64.5	32.48	115	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41005

Run ID :Run Order: **ICPMS205-H_180404B: 98** SampType: **Sample Matrix Spike** Lab ID: **H18030496-010AMS** Method: **SW6020**

Analysis Date: **04/04/18 15:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICPMS205-H_180404B: 99** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030496-010AMSD** Method: **SW6020**

Analysis Date: **04/04/18 16:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	32.0	1.0	64.5	0.143	49	75	125	28.99	9.8	20	S
Arsenic	72.1	1.0	64.5	6.072	102	75	125	71.4	1.0	20	
Beryllium	33.4	1.0	32.25	0.6029	102	75	125	32.72	2.1	20	
Boron	86.3	1.1	64.5	15.48	110	75	125	80.04	7.5	20	
Cadmium	33.5	1.0	32.25	0.1865	103	75	125	32.64	2.5	20	
Chromium	89.7	1.0	64.5	18.39	110	75	125	88.3	1.5	20	
Cobalt	73.6	1.0	64.5	6.782	104	75	125	72.11	2.0	20	
Lead	89.8	1.0	64.5	19.1	110	75	125	86.69	3.6	20	
Molybdenum	65.5	1.0	64.5	0.3739	101	75	125	63.14	3.6	20	
Nickel	82.9	1.0	64.5	15.73	104	75	125	81.78	1.4	20	
Selenium	65.2	1.0	64.5	0.3123	101	75	125	64.02	1.8	20	
Silver	33.4	1.0	32.25	0	103	75	125	32.36	3.0	20	
Uranium	68.9	1.0	64.5	0.6795	106	75	125	67.27	2.5	20	
Vanadium	109	1.0	64.5	32.48	119	75	125	106.9	1.9	20	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41013

Run ID :Run Order: **HGCV201-H_180405A: 61** SampType: **Method Blank** Lab ID: **MB-41013** Method: **SW7471B**
Analysis Date: **04/05/18 14:42** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 62** SampType: **Laboratory Control Sample** Lab ID: **LCS-41013** Method: **SW7471B**
Analysis Date: **04/05/18 14:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.4	0.50	5	0.001937	107	71	126.4				

Associated samples: **H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 63** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41013** Method: **SW7471B**
Analysis Date: **04/05/18 14:46** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.196	0.001937	106	80	120				

Associated samples: **H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 100** SampType: **Sample Matrix Spike** Lab ID: **H18030365-054AMS** Method: **SW7471B**
Analysis Date: **04/05/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.43	0.50	0.2628	0.1123	120	80	120				

Associated samples: **H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **HGCV201-H_180405A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-054AMSD** Method: **SW7471B**
Analysis Date: **04/05/18 16:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.35	0.50	0.2654	0.1123	91	80	120	0.4283		20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41013

Run ID :Run Order: **HGCV201-H_180405A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-054AMSD** Method: **SW7471B**

Analysis Date: **04/05/18 16:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICP2-HE_180406B: 94** SampType: **Method Blank** Lab ID: **MB-41015** Method: **SW6010B**

Analysis Date: **04/06/18 18:56** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.33	0.0090									
Barium	ND	0.0030									
Boron	ND	0.10									
Copper	ND	0.0010									
Iron	ND	0.020									
Manganese	0.369	0.0010									
Zinc	0.519	0.0080									

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICP2-HE_180406B: 95** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41015** Method: **SW6010B**

Analysis Date: **04/06/18 19:00** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	259	5.0	252.5	1.331	102	80	120				
Barium	52.1	1.0	50.5	0	103	80	120				
Boron	50.3	1.0	50.5	0	100	80	120				
Copper	50.9	1.0	50.5	0	101	80	120				
Iron	260	7.7	252.5	0	103	80	120				
Manganese	255	1.0	252.5	0.3688	101	80	120				
Zinc	50.7	1.0	50.5	0.5194	99	80	120				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICP2-HE_180406B: 96** SampType: **Laboratory Control Sample** Lab ID: **LCS-41015** Method: **SW6010B**

Analysis Date: **04/06/18 19:04** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9610	5.0	9722	1.331	99	46.3	130.2				
Barium	173	1.0	184.9	0	94	78.6	112.8				
Boron	110	1.0	127.6	0	86	59.5	106.2				
Copper	123	1.7	135.5	0	91	76.6	108.8				
Iron	16100	38	16120	0	100	51.7	131.9				
Manganese	435	1.0	429.2	0.3688	101	81.1	116.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICP2-HE_180406B: 96** SampType: **Laboratory Control Sample** Lab ID: **LCS-41015** Method: **SW6010B**

Analysis Date: **04/06/18 19:04** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	238	1.0	228.5	0.5194	104	75.3	111.7				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICP2-HE_180406B: 98** SampType: **Serial Dilution** Lab ID: **H18030365-019ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 19:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4650	28		0		0	0	4590	1.4	10	
Barium	150	1.9		0		0	0	147.9	1.7	10	
Boron	9.23	6.4		0		0	0	5.946		10	N
Copper	240	11		0		0	0	238	0.9	10	
Iron	7930	230		0		0	0	7788	1.7	10	
Manganese	2440	2.5		0		0	0	2388	1.9	10	
Zinc	297	3.1		0		0	0	291.1	2.0	10	

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICP2-HE_180406B: 99** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-019APDS** Method: **SW6010B**

Analysis Date: **04/06/18 19:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6270	5.7	1571	4590	107	75	125				
Barium	455	1.0	314.2	147.9	98	75	125				
Boron	299	1.3	314.2	5.946	93	75	125				
Copper	551	2.2	314.2	238	100	75	125				
Iron	9440	48	1571	7788		75	125				A
Manganese	3950	1.0	1571	2388	99	75	125				
Zinc	583	1.0	314.2	291.1	93	75	125				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICP2-HE_180406B: 100** SampType: **Sample Matrix Spike** Lab ID: **H18030365-019AMS** Method: **SW6010B**

Analysis Date: **04/06/18 19:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4740	5.2	289	4590		75	125				A
Barium	192	1.0	57.8	147.9	76	75	125				
Boron	60.6	1.2	57.8	5.946	94	75	125				
Copper	174	2.0	57.8	238		75	125				A
Iron	8740	44	289	7788		75	125				A
Manganese	2140	1.0	289	2388		75	125				A
Zinc	288	1.0	57.8	291.1		75	125				A

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180406B: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-019AMSD** Method: **SW6010B**

Analysis Date: **04/06/18 19:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5390	5.2	287.8	4590		75	125	4740	13	20	A
Barium	201	1.0	57.55	147.9	92	75	125	191.9	4.7	20	
Boron	68.5	1.2	57.55	5.946	109	75	125	60.57	12	20	
Copper	172	2.0	57.55	238		75	125	173.7	0.8	20	A
Iron	9030	44	287.8	7788		75	125	8743	3.2	20	A
Manganese	1990	1.0	287.8	2388		75	125	2144	7.4	20	A
Zinc	489	1.0	57.55	291.1		75	125	287.7	52	20	AR

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICPMS205-H_180410B: 94** SampType: **Method Blank** Lab ID: **MB-41015** Method: **SW6020**

Analysis Date: **04/10/18 17:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180410B: 96** SampType: **Serial Dilution** Lab ID: **H18030365-019ADIL** Method: **SW6020**

Analysis Date: **04/10/18 17:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.7882		10	
Arsenic	83.2	2.9		0		0	0	82.12	**1.3**	10	
Beryllium	ND	1.1		0		0	0	0		10	
Cadmium	0.718	1.0		0		0	0	0.7315		10	N
Chromium	6.41	2.9		0		0	0	6.43		10	N
Cobalt	4.63	1.0		0		0	0	4.632	**0.0**	10	
Lead	227	1.0		0		0	0	226.6	**0.2**	10	
Molybdenum	2.10	1.0		0		0	0	2.13		10	N
Nickel	4.46	1.0		0		0	0	4.41		10	N
Selenium	ND	1.3		0		0	0	0		10	
Silver	ND	2.6		0		0	0	0.6729		10	
Uranium	1.62	1.0		0		0	0	1.648		10	N
Vanadium	16.2	1.0		0		0	0	16.41	**1.4**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICPMS205-H_180410B: 96** SampType: **Serial Dilution** Lab ID: **H18030365-019ADIL** Method: **SW6020**

Analysis Date: **04/10/18 17:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180410B: 99** SampType: **Laboratory Control Sample** Lab ID: **LCS-41015** Method: **SW6020**

Analysis Date: **04/10/18 17:48** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	64.5	1.0	237.4	0	**27**	0	92.9				
Arsenic	163	1.0	193.8	0	**84**	71.4	105.1				
Beryllium	69.3	1.0	82.68	0	**84**	76.2	108				
Cadmium	92.6	1.0	97.91	0	**95**	73.9	106.1				
Chromium	106	1.0	115.7	0	**92**	73.5	108.5				
Cobalt	102	1.0	106.8	0	**95**	74.2	105.6				
Lead	99.8	1.0	103.8	0	**96**	74.4	108.6				
Molybdenum	114	1.0	125.6	0	**91**	66.5	103.1				
Nickel	77.7	1.0	85.25	0	**91**	72.3	105				
Selenium	187	1.0	202.7	0	**92**	71.2	110.2				
Silver	42.3	1.0	41.64	0	**102**	70.8	111.9				
Uranium	91.0	1.0	98.8	0	**92**	80.1	120.1				
Vanadium	106	1.0	112.7	0	**94**	67	107				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180410B: 100** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41015** Method: **SW6020**

Analysis Date: **04/10/18 17:50** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.8	1.0	50.5	0	**102**	80	120				
Arsenic	49.7	1.0	50.5	0	**98**	80	120				
Beryllium	23.3	1.0	25.25	0	**92**	80	120				
Cadmium	25.5	1.0	25.25	0	**101**	80	120				
Chromium	48.9	1.0	50.5	0	**97**	80	120				
Cobalt	50.3	1.0	50.5	0	**100**	80	120				
Lead	50.9	1.0	50.5	0	**101**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICPMS205-H_180410B: 100** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41015** Method: **SW6020**

Analysis Date: **04/10/18 17:50** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	51.3	1.0	50.5	0	102	80	120				
Nickel	50.2	1.0	50.5	0	99	80	120				
Selenium	48.0	1.0	50.5	0	95	80	120				
Silver	26.0	1.0	25.25	0	103	80	120				
Uranium	47.9	1.0	50.5	0	95	80	120				
Vanadium	48.2	1.0	50.5	0	95	80	120				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180410B: 101** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-019APDS1** Method: **SW6020**

Analysis Date: **04/10/18 17:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	29.8	1.0	30.5	0.7882	95	75	125				
Arsenic	107	1.0	30.5	82.12	83	75	125				
Beryllium	26.4	1.0	30.5	0	87	75	125				
Cadmium	29.7	1.0	30.5	0.7315	95	75	125				
Chromium	33.3	1.0	30.5	6.43	88	75	125				
Cobalt	32.0	1.0	30.5	4.632	90	75	125				
Lead	251	1.0	30.5	226.6		75	125				A
Molybdenum	30.3	1.0	30.5	2.13	92	75	125				
Nickel	32.6	1.0	30.5	4.41	92	75	125				
Selenium	28.4	1.0	30.5	0	93	75	125				
Silver	12.6	1.0	12.2	0.6729	98	75	125				
Uranium	30.0	1.0	30.5	1.648	93	75	125				
Vanadium	42.7	1.0	30.5	16.41	86	75	125				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180410B: 102** SampType: **Sample Matrix Spike** Lab ID: **H18030365-019AMS** Method: **SW6020**

Analysis Date: **04/10/18 17:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.7	1.0	57.8	0.7882	81	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICPMS205-H_180410B: 102** SampType: **Sample Matrix Spike** Lab ID: **H18030365-019AMS** Method: **SW6020**

Analysis Date: **04/10/18 17:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	86.6	1.0	57.8	82.12	8	75	125				S
Beryllium	27.5	1.0	28.9	0	95	75	125				
Cadmium	31.3	1.0	28.9	0.7315	106	75	125				
Chromium	65.4	1.0	57.8	6.43	102	75	125				
Cobalt	64.4	1.0	57.8	4.632	103	75	125				
Lead	109	1.0	57.8	226.6	-204	75	125				S
Molybdenum	61.3	1.0	57.8	2.13	102	75	125				
Nickel	63.8	1.0	57.8	4.41	103	75	125				
Selenium	59.0	1.0	57.8	0	102	75	125				
Silver	31.5	1.0	28.9	0.6729	107	75	125				
Uranium	59.2	1.0	57.8	1.648	100	75	125				
Vanadium	73.0	1.0	57.8	16.41	98	75	125				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180410B: 103** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-019AMSD** Method: **SW6020**

Analysis Date: **04/10/18 17:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.0	1.0	57.55	0.7882	80	75	125	47.67	1.4	20	
Arsenic	259	1.0	57.55	82.12	308	75	125	86.61	100	20	SR
Beryllium	27.4	1.0	28.78	0	95	75	125	27.45	0.1	20	
Cadmium	30.4	1.0	28.78	0.7315	103	75	125	31.28	3.0	20	
Chromium	62.1	1.0	57.55	6.43	97	75	125	65.36	5.1	20	
Cobalt	62.7	1.0	57.55	4.632	101	75	125	64.44	2.8	20	
Lead	103	1.0	57.55	226.6	-215	75	125	109	5.7	20	S
Molybdenum	62.8	1.0	57.55	2.13	105	75	125	61.32	2.4	20	
Nickel	62.0	1.0	57.55	4.41	100	75	125	63.8	2.9	20	
Selenium	57.4	1.0	57.55	0	100	75	125	59.01	2.8	20	
Silver	30.4	1.0	28.78	0.6729	103	75	125	31.53	3.5	20	
Uranium	61.0	1.0	57.55	1.648	103	75	125	59.24	2.9	20	
Vanadium	74.8	1.0	57.55	16.41	101	75	125	73.04	2.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICPMS205-H_180410B: 103** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-019AMSD** Method: **SW6020**

Analysis Date: **04/10/18 17:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180411C: 70** SampType: **Method Blank** Lab ID: **MB-41015** Method: **SW6020**

Analysis Date: **04/11/18 23:00** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180411C: 106** SampType: **Laboratory Control Sample** Lab ID: **LCS-41015** Method: **SW6020**

Analysis Date: **04/12/18 00:16** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	67.2	1.0	237.4	0	**28**	0	92.9				
Arsenic	170	1.0	193.8	0	**88**	71.4	105.1				
Beryllium	84.2	1.0	82.68	0	**102**	76.2	108				
Cadmium	100	1.0	97.91	0	**102**	73.9	106.1				
Chromium	105	1.0	115.7	0	**91**	73.5	108.5				
Cobalt	108	1.0	106.8	0	**101**	74.2	105.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41015

Run ID :Run Order: **ICPMS205-H_180411C: 106** SampType: **Laboratory Control Sample** Lab ID: **LCS-41015** Method: **SW6020**

Analysis Date: **04/12/18 00:16** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	103	1.0	103.8	0	**99**	74.4	108.6				
Molybdenum	121	1.0	125.6	0	**96**	66.5	103.1				
Nickel	83.1	1.0	85.25	0	**97**	72.3	105				
Selenium	199	1.0	202.7	0	**98**	71.2	110.2				
Silver	45.4	1.0	41.64	0	**109**	70.8	111.9				
Uranium	98.6	1.0	98.8	0	**100**	80.1	120.1				
Vanadium	101	1.0	112.7	0	**90**	67	107				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180411C: 107** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41015** Method: **SW6020**

Analysis Date: **04/12/18 00:18** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.2	1.0	50.5	0	**101**	80	120				
Arsenic	48.9	1.0	50.5	0	**97**	80	120				
Beryllium	26.1	1.0	25.25	0	**103**	80	120				
Cadmium	25.6	1.0	25.25	0	**101**	80	120				
Chromium	46.1	1.0	50.5	0	**91**	80	120				
Cobalt	49.0	1.0	50.5	0	**97**	80	120				
Lead	49.0	1.0	50.5	0	**97**	80	120				
Molybdenum	50.1	1.0	50.5	0	**99**	80	120				
Nickel	50.6	1.0	50.5	0	**100**	80	120				
Selenium	48.3	1.0	50.5	0	**96**	80	120				
Silver	26.5	1.0	25.25	0	**105**	80	120				
Uranium	48.6	1.0	50.5	0	**96**	80	120				
Vanadium	44.4	1.0	50.5	0	**88**	80	120				

Associated samples: **H18030365-019A, H18030365-022A, H18030365-025A, H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41016

Run ID :Run Order: **HGCV201-H_180406B: 10** SampType: **Method Blank** Lab ID: **MB-41016** Method: **SW7471B**
Analysis Date: **04/06/18 14:37** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-41016** Method: **SW7471B**
Analysis Date: **04/06/18 14:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.4	0.50	5	0.00068	108	71	126.4				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41016** Method: **SW7471B**
Analysis Date: **04/06/18 14:40** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0.00068	99	80	120				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 21** SampType: **Sample Matrix Spike** Lab ID: **H18030365-046AMS** Method: **SW7471B**
Analysis Date: **04/06/18 14:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.50	0.2404	0.06074	88	80	120				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-046AMSD** Method: **SW7471B**
Analysis Date: **04/06/18 15:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.29	0.20	0.2404	0.06074	95	80	120	0.2731	5.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41016

Run ID :Run Order: **HGCV201-H_180406B: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-046AMSD** Method: **SW7471B**

Analysis Date: **04/06/18 15:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 35** SampType: **Sample Matrix Spike** Lab ID: **H18040062-001AMS** Method: **SW7471B**

Analysis Date: **04/06/18 15:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.30	0.50	0.2627	0.05949	**93**	80	120				

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Run ID :Run Order: **HGCV201-H_180406B: 36** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18040062-001AMSD** Method: **SW7471B**

Analysis Date: **04/06/18 15:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.31	0.20	0.2601	0.05949	**96**	80	120	0.3027	**2.3**	20	

Associated samples: **H18030365-028A, H18030365-031A, H18030365-034A, H18030365-037A, H18030365-040A, H18030365-043A, H18030365-046A, H18030365-049A, H18030365-052A, H18030365-055A, H18030365-058A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICP2-HE_180406B: 53** SampType: **Method Blank** Lab ID: **MB-41018** Method: **SW6010B**

Analysis Date: **04/06/18 16:23** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Barium	ND	0.0030									
Boron	ND	0.10									
Copper	0.607	0.0010									
Iron	ND	0.020									
Manganese	0.152	0.0010									
Zinc	0.510	0.0080									

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180406B: 54** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41018** Method: **SW6010B**

Analysis Date: **04/06/18 16:27** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	251	5.0	247	0	102	80	120				
Barium	49.9	1.0	49.4	0	101	80	120				
Boron	49.1	1.0	49.4	0	99	80	120				
Copper	49.7	1.0	49.4	0.6071	99	80	120				
Iron	251	7.5	247	0	101	80	120				
Manganese	248	1.0	247	0.1524	100	80	120				
Zinc	47.7	1.0	49.4	0.5095	96	80	120				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180406B: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6010B**

Analysis Date: **04/06/18 16:31** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9660	5.0	9830	0	98	46.3	130.2				
Barium	176	1.0	187	0	94	78.6	112.8				
Boron	114	1.0	129	0	88	59.5	106.2				
Copper	129	1.7	137	0.6071	94	76.6	108.8				
Iron	16600	38	16300	0	102	51.7	131.9				
Manganese	431	1.0	434	0.1524	99	81.1	116.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICP2-HE_180406B: 55** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6010B**

Analysis Date: **04/06/18 16:31** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	245	1.0	231	0.5095	106	75.3	111.7				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180406B: 75** SampType: **Serial Dilution** Lab ID: **H18030365-060ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 17:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4890	26		0		0	0	4781	2.3	10	
Barium	98.7	1.8		0		0	0	96.6	2.1	10	
Boron	ND	5.9		0		0	0	0		10	
Copper	125	9.9		0		0	0	116.4	7.3	10	
Iron	12000	220		0		0	0	11650	3.0	10	
Manganese	324	2.3		0		0	0	315.4	2.7	10	
Zinc	329	2.9		0		0	0	337.7	2.6	10	

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180406B: 76** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-060APDS** Method: **SW6010B**

Analysis Date: **04/06/18 17:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6330	5.3	1467	4781	106	75	125				
Barium	377	1.0	293.5	96.6	96	75	125				
Boron	280	1.2	293.5	0	96	75	125				
Copper	408	2.0	293.5	116.4	99	75	125				
Iron	13100	45	1467	11650		75	125				A
Manganese	1740	1.0	1467	315.4	97	75	125				
Zinc	596	1.0	293.5	337.7	88	75	125				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICP2-HE_180406B: 77** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6010B**

Analysis Date: **04/06/18 17:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5960	5.1	282.8	4781		75	125				A
Barium	165	1.0	56.56	96.6	120	75	125				
Boron	57.9	1.2	56.56	0	102	75	125				
Copper	172	2.0	56.56	116.4	98	75	125				
Iron	11700	43	282.8	11650		75	125				A
Manganese	791	1.0	282.8	315.4	168	75	125				S
Zinc	325	1.0	56.56	337.7		75	125				A

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180406B: 78** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-060AMSD** Method: **SW6010B**

Analysis Date: **04/06/18 17:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6040	5.3	292	4781		75	125	5956	1.4	20	A
Barium	154	1.0	58.39	96.6	97	75	125	164.7	7.0	20	
Boron	57.3	1.2	58.39	0	98	75	125	57.92	1.1	20	
Copper	154	2.0	58.39	116.4	65	75	125	171.7	11	20	S
Iron	11800	44	292	11650		75	125	11750	0.4	20	A
Manganese	621	1.0	292	315.4	105	75	125	791.3	24	20	R
Zinc	369	1.0	58.39	337.7		75	125	324.5	13	20	A

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180416A: 15** SampType: **Method Blank** Lab ID: **MB-41018** Method: **SW6010B**

Analysis Date: **04/16/18 10:02** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Barium	ND	0.0030									
Boron	ND	0.10									
Copper	ND	0.0010									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICP2-HE_180416A: 15** SampType: **Method Blank** Lab ID: **MB-41018** Method: **SW6010B**

Analysis Date: **04/16/18 10:02** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.020									
Manganese	0.160	0.0010									
Zinc	0.478	0.0080									

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180416A: 16** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41018** Method: **SW6010B**

Analysis Date: **04/16/18 10:06** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	250	5.0	247	0	**101**	80	120				
Barium	50.5	1.0	49.4	0	**102**	80	120				
Boron	49.1	1.0	49.4	0	**99**	80	120				
Copper	49.8	1.0	49.4	0	**101**	80	120				
Iron	253	7.5	247	0	**102**	80	120				
Manganese	248	1.0	247	0.16	**101**	80	120				
Zinc	48.8	1.0	49.4	0.4784	**98**	80	120				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180416A: 17** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6010B**

Analysis Date: **04/16/18 10:10** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9840	5.0	9830	0	**100**	46.3	130.2				
Barium	179	1.0	187	0	**96**	78.6	112.8				
Boron	111	1.0	129	0	**86**	59.5	106.2				
Copper	128	1.7	137	0	**94**	76.6	108.8				
Iron	16700	38	16300	0	**102**	51.7	131.9				
Manganese	429	1.0	434	0.16	**99**	81.1	116.6				
Zinc	243	1.0	231	0.4784	**105**	75.3	111.7				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICP2-HE_180416A: 22** SampType: **Serial Dilution** Lab ID: **H18030365-060ADIL** Method: **SW6010B**

Analysis Date: **04/16/18 10:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5050	26		0		0	0	4956	1.9	10	
Barium	102	1.8		0		0	0	100.7	1.5	10	
Boron	ND	5.9		0		0	0	1.313		10	
Copper	113	9.9		0		0	0	112.2	0.9	10	
Iron	12000	220		0		0	0	11680	2.6	10	
Manganese	318	2.3		0		0	0	314.1	1.3	10	
Zinc	338	2.9		0		0	0	332.6	1.5	10	

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180416A: 23** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-060APDS** Method: **SW6010B**

Analysis Date: **04/16/18 10:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6580	5.3	1467	4956	111	75	125				
Barium	385	1.0	293.5	100.7	97	75	125				
Boron	269	1.2	293.5	1.313	91	75	125				
Copper	395	2.0	293.5	112.2	96	75	125				
Iron	13200	45	1467	11680		75	125				A
Manganese	1710	1.0	1467	314.1	95	75	125				
Zinc	593	1.0	293.5	332.6	89	75	125				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180416A: 24** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6010B**

Analysis Date: **04/16/18 10:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6540	5.1	282.8	4956		75	125				A
Barium	176	1.0	56.56	100.7	133	75	125				S
Boron	57.3	1.2	56.56	1.313	99	75	125				
Copper	167	2.0	56.56	112.2	97	75	125				
Iron	11800	43	282.8	11680		75	125				A
Manganese	786	1.0	282.8	314.1	167	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICP2-HE_180416A: 24** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6010B**

Analysis Date: **04/16/18 10:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	330	1.0	56.56	332.6		75	125				A

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICP2-HE_180416A: 25** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-060AMSD** Method: **SW6010B**

Analysis Date: **04/16/18 10:40** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6580	5.3	292	4956		75	125	6539	0.6	20	A
Barium	161	1.0	58.39	100.7	103	75	125	176	8.8	20	
Boron	55.9	1.2	58.39	1.313	94	75	125	57.27	2.4	20	
Copper	147	2.0	58.39	112.2	60	75	125	166.9	13	20	S
Iron	11600	44	292	11680		75	125	11780	1.3	20	A
Manganese	614	1.0	292	314.1	103	75	125	786.3	25	20	R
Zinc	382	1.0	58.39	332.6		75	125	330.5	14	20	A

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180410B: 64** SampType: **Method Blank** Lab ID: **MB-41018** Method: **SW6020**

Analysis Date: **04/10/18 16:35** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.237	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180410B: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6020**

Analysis Date: **04/10/18 16:52** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	64.5	1.0	240	0.2366	**27**	0	92.9				
Arsenic	170	1.0	196	0	**87**	71.4	105.1				
Beryllium	69.4	1.0	83.6	0	**83**	76.2	108				
Cadmium	95.7	1.0	99	0	**97**	73.9	106.1				
Chromium	111	1.0	117	0	**95**	73.5	108.5				
Cobalt	107	1.0	108	0	**99**	74.2	105.6				
Lead	104	1.0	105	0	**99**	74.4	108.6				
Molybdenum	117	1.0	127	0	**92**	66.5	103.1				
Nickel	80.3	1.0	86.2	0	**93**	72.3	105				
Selenium	194	1.0	205	0	**95**	71.2	110.2				
Silver	43.7	1.0	42.1	0	**104**	70.8	111.9				
Uranium	94.9	1.0	99.9	0	**95**	80.1	120.1				
Vanadium	108	1.0	114	0	**95**	67	107				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180410B: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6020**

Analysis Date: **04/10/18 16:52** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180410B: 73** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41018** Method: **SW6020**

Analysis Date: **04/10/18 16:54** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.9	1.0	49.4	0.2366	103	80	120				
Arsenic	47.6	1.0	49.4	0	96	80	120				
Beryllium	21.6	1.0	24.7	0	87	80	120				
Cadmium	24.7	1.0	24.7	0	100	80	120				
Chromium	46.8	1.0	49.4	0	95	80	120				
Cobalt	47.6	1.0	49.4	0	96	80	120				
Lead	49.1	1.0	49.4	0	99	80	120				
Molybdenum	49.8	1.0	49.4	0	101	80	120				
Nickel	48.1	1.0	49.4	0	97	80	120				
Selenium	46.7	1.0	49.4	0	94	80	120				
Silver	25.3	1.0	24.7	0	103	80	120				
Uranium	46.4	1.0	49.4	0	94	80	120				
Vanadium	45.9	1.0	49.4	0	93	80	120				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180410B: 86** SampType: **Serial Dilution** Lab ID: **H18030365-060ADIL** Method: **SW6020**

Analysis Date: **04/10/18 17:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.4601		10	
Arsenic	20.2	2.7		0		0	0	20.63		10	N
Beryllium	ND	1.0		0		0	0	0		10	
Cadmium	0.923	1.0		0		0	0	0.9505		10	N
Chromium	9.16	2.7		0		0	0	9.334		10	N
Cobalt	2.96	1.0		0		0	0	3.087		10	N
Lead	41.5	1.0		0		0	0	44.07	5.9	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180410B: 86** SampType: **Serial Dilution** Lab ID: **H18030365-060ADIL** Method: **SW6020**

Analysis Date: **04/10/18 17:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	2.97	1.0		0		0	0	3.035		10	N
Nickel	4.89	1.0		0		0	0	4.994		10	N
Selenium	ND	1.2		0		0	0	0		10	
Silver	ND	2.5		0		0	0	0.5599		10	
Uranium	2.09	1.0		0		0	0	2.171		10	N
Vanadium	23.9	1.0		0		0	0	24.76	3.5	10	

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180410B: 87** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-060APDS1** Method: **SW6020**

Analysis Date: **04/10/18 17:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	28.0	1.0	28.49	0.4601	97	75	125				
Arsenic	46.6	1.0	28.49	20.63	91	75	125				
Beryllium	23.8	1.0	28.49	0	84	75	125				
Cadmium	28.1	1.0	28.49	0.9505	95	75	125				
Chromium	34.0	1.0	28.49	9.334	87	75	125				
Cobalt	29.1	1.0	28.49	3.087	91	75	125				
Lead	69.0	1.0	28.49	44.07	88	75	125				
Molybdenum	29.4	1.0	28.49	3.035	93	75	125				
Nickel	31.3	1.0	28.49	4.994	92	75	125				
Selenium	27.2	1.0	28.49	0	96	75	125				
Silver	11.8	1.0	11.4	0.5599	99	75	125				
Uranium	28.3	1.0	28.49	2.171	92	75	125				
Vanadium	48.4	1.0	28.49	24.76	83	75	125				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180410B: 88** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6020**

Analysis Date: **04/10/18 17:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	39.4	1.0	56.56	0.4601	69	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180410B: 88** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6020**

Analysis Date: **04/10/18 17:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	77.9	1.0	56.56	20.63	101	75	125				
Beryllium	26.0	1.0	28.28	0	92	75	125				
Cadmium	30.1	1.0	28.28	0.9505	103	75	125				
Chromium	66.6	1.0	56.56	9.334	101	75	125				
Cobalt	60.1	1.0	56.56	3.087	101	75	125				
Lead	105	1.0	56.56	44.07	107	75	125				
Molybdenum	58.4	1.0	56.56	3.035	98	75	125				
Nickel	61.9	1.0	56.56	4.994	101	75	125				
Selenium	56.4	1.0	56.56	0	100	75	125				
Silver	30.7	1.0	28.28	0.5599	107	75	125				
Uranium	58.3	1.0	56.56	2.171	99	75	125				
Vanadium	80.3	1.0	56.56	24.76	98	75	125				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180410B: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-060AMSD** Method: **SW6020**

Analysis Date: **04/10/18 17:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	39.6	1.0	58.39	0.4601	67	75	125	39.37	0.6	20	S
Arsenic	73.4	1.0	58.39	20.63	90	75	125	77.91	6.0	20	
Beryllium	25.8	1.0	29.2	0	88	75	125	26.01	0.8	20	
Cadmium	29.1	1.0	29.2	0.9505	96	75	125	30.13	3.4	20	
Chromium	61.7	1.0	58.39	9.334	90	75	125	66.64	7.8	20	
Cobalt	57.0	1.0	58.39	3.087	92	75	125	60.07	5.3	20	
Lead	88.7	1.0	58.39	44.07	76	75	125	104.7	17	20	
Molybdenum	56.4	1.0	58.39	3.035	91	75	125	58.37	3.4	20	
Nickel	59.9	1.0	58.39	4.994	94	75	125	61.94	3.4	20	
Selenium	54.7	1.0	58.39	0	94	75	125	56.36	3.0	20	
Silver	29.8	1.0	29.2	0.5599	100	75	125	30.7	3.0	20	
Uranium	56.2	1.0	58.39	2.171	93	75	125	58.26	3.6	20	
Vanadium	80.1	1.0	58.39	24.76	95	75	125	80.34	0.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180410B: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-060AMSD** Method: **SW6020**

Analysis Date: **04/10/18 17:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180411C: 98** SampType: **Method Blank** Lab ID: **MB-41018** Method: **SW6020**

Analysis Date: **04/11/18 23:59** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180411C: 125** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6020**

Analysis Date: **04/12/18 00:56** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	67.0	1.0	240	0	**28**	0	92.9				
Arsenic	175	1.0	196	0	**89**	71.4	105.1				
Beryllium	86.0	1.0	83.6	0	**103**	76.2	108				
Cadmium	102	1.0	99	0	**103**	73.9	106.1				
Chromium	108	1.0	117	0	**93**	73.5	108.5				
Cobalt	111	1.0	108	0	**102**	74.2	105.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180411C: 125** SampType: **Laboratory Control Sample** Lab ID: **LCS-41018** Method: **SW6020**

Analysis Date: **04/12/18 00:56** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	106	1.0	105	0	101	74.4	108.6				
Molybdenum	120	1.0	127	0	94	66.5	103.1				
Nickel	85.0	1.0	86.2	0	99	72.3	105				
Selenium	208	1.0	205	0	102	71.2	110.2				
Silver	46.4	1.0	42.1	0	110	70.8	111.9				
Uranium	101	1.0	99.9	0	102	80.1	120.1				
Vanadium	104	1.0	114	0	91	67	107				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180411C: 126** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41018** Method: **SW6020**

Analysis Date: **04/12/18 00:58** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.8	1.0	49.4	0	105	80	120				
Arsenic	49.8	1.0	49.4	0	101	80	120				
Beryllium	26.4	1.0	24.7	0	107	80	120				
Cadmium	25.9	1.0	24.7	0	105	80	120				
Chromium	47.2	1.0	49.4	0	96	80	120				
Cobalt	50.1	1.0	49.4	0	102	80	120				
Lead	50.6	1.0	49.4	0	102	80	120				
Molybdenum	50.3	1.0	49.4	0	102	80	120				
Nickel	51.7	1.0	49.4	0	105	80	120				
Selenium	49.3	1.0	49.4	0	100	80	120				
Silver	26.8	1.0	24.7	0	108	80	120				
Uranium	49.7	1.0	49.4	0	101	80	120				
Vanadium	45.6	1.0	49.4	0	92	80	120				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180411C: 127** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-060APDS1** Method: **SW6020**

Analysis Date: **04/12/18 01:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	28.4	1.0	28.49	0.4749	**98**	75	125				
Arsenic	47.3	1.0	28.49	20.65	**94**	75	125				
Beryllium	29.0	1.0	28.49	0.229	**101**	75	125				
Cadmium	29.3	1.0	28.49	0.9705	**99**	75	125				
Chromium	34.7	1.0	28.49	9.357	**89**	75	125				
Cobalt	30.5	1.0	28.49	3.143	**96**	75	125				
Lead	70.5	1.0	28.49	43.18	**96**	75	125				
Molybdenum	30.7	1.0	28.49	3.067	**97**	75	125				
Nickel	33.2	1.0	28.49	5.16	**98**	75	125				
Selenium	27.4	1.0	28.49	0	**96**	75	125				
Silver	12.5	1.0	11.4	0.5673	**104**	75	125				
Uranium	29.8	1.0	28.49	2.217	**97**	75	125				
Vanadium	48.4	1.0	28.49	24.26	**85**	75	125				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180411C: 128** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6020**

Analysis Date: **04/12/18 01:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	40.7	1.0	56.56	0.4749	**71**	75	125				S
Arsenic	79.4	1.0	56.56	20.65	**104**	75	125				
Beryllium	30.3	1.0	28.28	0.229	**106**	75	125				
Cadmium	31.5	1.0	28.28	0.9705	**108**	75	125				
Chromium	65.9	1.0	56.56	9.357	**100**	75	125				
Cobalt	61.0	1.0	56.56	3.143	**102**	75	125				
Lead	107	1.0	56.56	43.18	**114**	75	125				
Molybdenum	59.9	1.0	56.56	3.067	**100**	75	125				
Nickel	65.3	1.0	56.56	5.16	**106**	75	125				
Selenium	58.7	1.0	56.56	0	**104**	75	125				
Silver	32.7	1.0	28.28	0.5673	**114**	75	125				
Uranium	61.4	1.0	56.56	2.217	**105**	75	125				
Vanadium	78.0	1.0	56.56	24.26	**95**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41018

Run ID :Run Order: **ICPMS205-H_180411C: 128** SampType: **Sample Matrix Spike** Lab ID: **H18030365-060AMS** Method: **SW6020**

Analysis Date: **04/12/18 01:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **ICPMS205-H_180411C: 129** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-060AMSD** Method: **SW6020**

Analysis Date: **04/12/18 01:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	40.6	1.0	58.39	0.4749	**69**	75	125	40.66	**0.1**	20	S
Arsenic	75.3	1.0	58.39	20.65	**94**	75	125	79.44	**5.3**	20	
Beryllium	29.5	1.0	29.2	0.229	**100**	75	125	30.29	**2.5**	20	
Cadmium	30.6	1.0	29.2	0.9705	**102**	75	125	31.47	**2.8**	20	
Chromium	62.7	1.0	58.39	9.357	**91**	75	125	65.9	**5.0**	20	
Cobalt	58.8	1.0	58.39	3.143	**95**	75	125	60.98	**3.6**	20	
Lead	91.9	1.0	58.39	43.18	**84**	75	125	107.4	**16**	20	
Molybdenum	59.2	1.0	58.39	3.067	**96**	75	125	59.9	**1.3**	20	
Nickel	63.1	1.0	58.39	5.16	**99**	75	125	65.28	**3.4**	20	
Selenium	56.8	1.0	58.39	0	**97**	75	125	58.71	**3.3**	20	
Silver	31.8	1.0	29.2	0.5673	**107**	75	125	32.69	**2.8**	20	
Uranium	59.4	1.0	58.39	2.217	**98**	75	125	61.38	**3.2**	20	
Vanadium	76.0	1.0	58.39	24.26	**89**	75	125	77.96	**2.5**	20	

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 19** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6010B**
Analysis Date: **04/09/18 14:15** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0030									

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41056** Method: **SW6010B**
Analysis Date: **04/09/18 14:27** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	50.1	1.0	48.15	0	104	80	120				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 23** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6010B**
Analysis Date: **04/09/18 14:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	173	1.0	185.9	0	93	78.6	112.8				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 25** SampType: **Serial Dilution** Lab ID: **H18030365-026ADIL** Method: **SW6010B**
Analysis Date: **04/09/18 14:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	252	4.4		0		0	0	247.2	1.9	10	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 26** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-026APDS** Method: **SW6010B**
Analysis Date: **04/09/18 14:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	953	1.0	722.2	247.2	98	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 26** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-026APDS** Method: **SW6010B**

Analysis Date: **04/09/18 14:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 27** SampType: **Sample Matrix Spike** Lab ID: **H18030365-026AMS** Method: **SW6010B**

Analysis Date: **04/09/18 14:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	402	1.0	137	247.2	**113**	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-026AMSD** Method: **SW6010B**

Analysis Date: **04/09/18 14:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	413	1.0	143.6	247.2	**115**	75	125	401.8	**2.7**	20	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 53** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6010B**

Analysis Date: **04/09/18 16:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	61.4	1.7		0		0	0	60.16	**2.1**	10	

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 54** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-010APDS** Method: **SW6010B**

Analysis Date: **04/09/18 16:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	333	1.0	284.8	60.16	**96**	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 55** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6010B**

Analysis Date: **04/09/18 16:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	147	1.0	65.32	60.16	132	75	125				S

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180409B: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-010AMSD** Method: **SW6010B**

Analysis Date: **04/09/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	181	1.0	65.32	60.16	184	75	125	146.5	21	20	SR

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180409B: 61** SampType: **Serial Dilution** Lab ID: **H18030496-014ADIL** Method: **SW6010B**

Analysis Date: **04/09/18 16:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	401	2.1		0		0	0	340.8	16	10	R

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 62** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030496-014APDS** Method: **SW6010B**

Analysis Date: **04/09/18 16:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	704	1.0	344.1	340.8	106	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180416A: 26** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6010B**

Analysis Date: **04/16/18 10:43** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0030									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180416A: 26** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6010B**
Analysis Date: **04/16/18 10:43** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180416A: 27** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41056** Method: **SW6010B**
Analysis Date: **04/16/18 10:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	49.3	1.0	48.15	0	102	80	120				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180416A: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6010B**
Analysis Date: **04/16/18 10:51** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	169	1.0	185.9	0	91	78.6	112.8				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180416A: 30** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6010B**
Analysis Date: **04/16/18 10:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	64.0	8.7		0		0	0	63.12		10	N

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180416A: 33** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-010APDS** Method: **SW6010B**
Analysis Date: **04/16/18 11:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1490	1.8	1424	63.12	100	75	125				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180416A: 34** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6010B**

Analysis Date: **04/16/18 11:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	153	2.0	65.32	63.12	**137**	75	125				S

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180416A: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-010AMSD** Method: **SW6010B**

Analysis Date: **04/16/18 11:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	193	2.0	65.32	63.12	**199**	75	125	152.9	**23**	20	SR

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: 41079

Run ID :Run Order: **HGCV201-H_180410A: 10** SampType: **Method Blank** Lab ID: **MB-41079** Method: **SW7471B**
Analysis Date: **04/10/18 11:11** Units: **mg/kg** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Associated samples: **H18030365-026A**

Run ID :Run Order: **HGCV201-H_180410A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-41079** Method: **SW7471B**
Analysis Date: **04/10/18 11:13** Units: **mg/kg** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.3	0.50	5	0	106	71	126.4				

Associated samples: **H18030365-026A**

Run ID :Run Order: **HGCV201-H_180410A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41079** Method: **SW7471B**
Analysis Date: **04/10/18 11:15** Units: **mg/kg** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.22	0.50	0.2	0	109	80	120				

Associated samples: **H18030365-026A**

Run ID :Run Order: **HGCV201-H_180410A: 18** SampType: **Sample Matrix Spike** Lab ID: **H18030365-026AMS** Method: **SW7471B**
Analysis Date: **04/10/18 11:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.2	0.50	0.5294	1.475	129	80	120				S

Associated samples: **H18030365-026A**

Run ID :Run Order: **HGCV201-H_180410A: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-026AMSD** Method: **SW7471B**
Analysis Date: **04/10/18 11:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.1	0.50	0.5294	1.475	127	80	120	2.157	0.4	20	S

Associated samples: **H18030365-026A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133328

Run ID :Run Order: **PHSC_101-H_180326A: 7** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **03/26/18 10:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	4.0									

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 8** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **03/26/18 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	550	4.0	600	2.28	91	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 11** SampType: **Sample Duplicate** Lab ID: **H18030350-008ADUP** Method: **A2320 B**

Analysis Date: **03/26/18 11:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	170	4.0		0				164.4	1.8	10	
Bicarbonate as HCO3	200	4.0		0				199.9	1.8	10	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 51** SampType: **Sample Duplicate** Lab ID: **H18030364-013ADUP** Method: **A2320 B**

Analysis Date: **03/26/18 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	140	4.0		0				134	1.1	10	
Bicarbonate as HCO3	160	4.0		0				162.9	1.1	10	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 53** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **03/26/18 14:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	4.0									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133328

Run ID :Run Order: **PHSC_101-H_180326A: 53** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **03/26/18 14:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 54** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **03/26/18 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	570	4.0	600	2.12	**95**	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 57** SampType: **Sample Duplicate** Lab ID: **H18030364-014ADUP** Method: **A2320 B**

Analysis Date: **03/26/18 14:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0		0				117	**2.0**	10	
Bicarbonate as HCO3	140	4.0		0				142.1	**2.0**	10	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Run ID :Run Order: **PHSC_101-H_180326A: 97** SampType: **Sample Duplicate** Lab ID: **H18030365-016ADUP** Method: **A2320 B**

Analysis Date: **03/26/18 16:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	96	4.0		0				95.05	**0.8**	10	
Bicarbonate as HCO3	120	4.0		0				115.4	**0.8**	10	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133339

Run ID :Run Order: **FIA203-HE_180326A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **03/26/18 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.010	1	0	105	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 48** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **03/26/18 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.010	1	0	104	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 49** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **03/26/18 09:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.020									

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 50** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **03/26/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.008701	100	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 78** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **03/26/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133339

Run ID :Run Order: **FIA203-HE_180326A: 78** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **03/26/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 80** SampType: **Sample Matrix Spike** Lab ID: **H18030364-016DMS** Method: **E353.2**

Analysis Date: **03/26/18 10:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.35	0.011	1	0.3417	101	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 81** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030364-016DMSD** Method: **E353.2**

Analysis Date: **03/26/18 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.35	0.011	1	0.3417	101	90	110	1.354	0.1	10	

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **03/26/18 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.498	0.010	0.5	0	100	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 94** SampType: **Sample Matrix Spike** Lab ID: **H18030365-009DMS** Method: **E353.2**

Analysis Date: **03/26/18 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.79	0.011	1	0.8163	97	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133339

Run ID :Run Order: **FIA203-HE_180326A: 95** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-009DMSD** Method: **E353.2**

Analysis Date: **03/26/18 10:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.77	0.011	1	0.8163	96	90	110	1.786	0.7	10	

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 108** SampType: **Sample Matrix Spike** Lab ID: **H18030366-002DMS** Method: **E353.2**

Analysis Date: **03/26/18 11:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.75	0.011	1	0.7712	98	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326A: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-002DMSD** Method: **E353.2**

Analysis Date: **03/26/18 11:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.76	0.011	1	0.7712	99	90	110	1.754	0.3	10	

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133359

Run ID :Run Order: **FIA203-HE_180326B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **03/26/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.7	0.50	10.3	0	104	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **03/26/18 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **03/26/18 14:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.493	0.050	0.5	0	99	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **03/26/18 14:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.050									

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030364-013DMSD** Method: **E350.1**
Analysis Date: **03/26/18 14:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.826	0.055	1	0	83	80	120	0.8413	1.9	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133359

Run ID :Run Order: **FIA203-HE_180326B: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030364-013DMSD** Method: **E350.1**

Analysis Date: **03/26/18 14:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 23** SampType: **Sample Matrix Spike** Lab ID: **H18030364-013DMS** Method: **E350.1**

Analysis Date: **03/26/18 14:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.841	0.055	1	0	84	80	120				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 24** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **03/26/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.484	0.050	0.5	0	97	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 27** SampType: **Sample Matrix Spike** Lab ID: **H18030365-009DMS** Method: **E350.1**

Analysis Date: **03/26/18 14:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.39	0.055	1	0.5366	86	80	120				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA203-HE_180326B: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-009DMSD** Method: **E350.1**

Analysis Date: **03/26/18 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.42	0.055	1	0.5366	89	80	120	1.393	2.1	10	

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133359

Run ID :Run Order: **FIA203-HE_180326B: 41** SampType: **Sample Matrix Spike** Lab ID: **H18030366-002DMS** Method: **E350.1**

Analysis Date: **03/26/18 14:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.937	0.055	1	0.03068	**91**	80	120				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/26/18 09:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.778	0.10	0.8	0	97	95	105				
Calcium	41.1	1.0	40	0	103	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Potassium	40.5	1.0	40	0	101	95	105				
Sodium	40.4	1.0	40	0	101	95	105				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/26/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.793	0.10	0.8	0	99	95	105				
Calcium	39.9	1.0	40	0	100	95	105				
Magnesium	39.3	1.0	40	0	98	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	40.1	1.0	40	0	100	95	105				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 13** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/26/18 09:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	24.8	1.0	25	0	99	95	105				
Magnesium	24.2	1.0	25	0	97	95	105				
Potassium	24.7	1.0	25	0	99	95	105				
Sodium	24.8	1.0	25	0	99	95	105				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/26/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00363	0.10		0		0	0				
Calcium	481	1.0	500	0	96	80	120				
Magnesium	518	1.0	500	0	104	80	120				
Potassium	-0.0380	1.0		0		0	0				
Sodium	0.0384	1.0		0		0	0				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/26/18 09:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.986	0.10	1	0	99	80	120				
Calcium	476	1.0	500	0	95	80	120				
Magnesium	514	1.0	500	0	103	80	120				
Potassium	20.4	1.0	20	0	102	80	120				
Sodium	20.4	1.0	20	0	102	80	120				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 19** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **03/26/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.10									
Calcium	ND	1.0									
Magnesium	ND	1.0									
Potassium	ND	1.0									
Sodium	ND	1.0									

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 20** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **03/26/18 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.10	1	0	**99**	85	115				
Calcium	49.6	1.0	50	0.07613	**99**	85	115				
Magnesium	48.8	1.0	50	0.02208	**98**	85	115				
Potassium	50.2	1.0	50	0	**100**	85	115				
Sodium	50.3	1.0	50	0	**101**	85	115				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/26/18 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	**97**	90	110				
Calcium	23.8	1.0	25	0	**95**	90	110				
Magnesium	23.3	1.0	25	0	**93**	90	110				
Potassium	25.3	1.0	25	0	**101**	90	110				
Sodium	25.5	1.0	25	0	**102**	90	110				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 99** SampType: **Sample Matrix Spike** Lab ID: **H18030351-002BMS2** Method: **E200.7**

Analysis Date: **03/26/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	11.1	0.050	10	1.47	**97**	70	130				
Calcium	712	1.0	500	222	**98**	70	130				
Magnesium	656	1.0	500	165.7	**98**	70	130				
Potassium	545	1.0	500	25.1	**104**	70	130				
Sodium	8520	2.5	500	7976		70	130				A

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 100** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030351-002BMSD2** Method: **E200.7**

Analysis Date: **03/26/18 15:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	11.2	0.050	10	1.47	97	70	130	11.13	0.2	20	
Calcium	720	1.0	500	222	100	70	130	712.2	1.1	20	
Magnesium	663	1.0	500	165.7	100	70	130	656.2	1.1	20	
Potassium	544	1.0	500	25.1	104	70	130	544.8	0.0	20	
Sodium	8550	2.5	500	7976		70	130	8524	0.3	20	A

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 104** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/26/18 15:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	24.3	1.0	25	0	97	90	110				
Magnesium	23.8	1.0	25	0	95	90	110				
Potassium	24.0	1.0	25	0	96	90	110				
Sodium	24.1	1.0	25	0	96	90	110				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 113** SampType: **Sample Matrix Spike** Lab ID: **H18030365-008BMS2** Method: **E200.7**

Analysis Date: **03/26/18 15:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.975	0.050	1	0.04304	93	70	130				
Calcium	91.3	1.0	50	37.83	107	70	130				
Magnesium	62.0	1.0	50	8.496	107	70	130				
Potassium	63.5	1.0	50	6.9	113	70	130				
Sodium	77.4	1.0	50	20.41	114	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 114** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-008BMSD2** Method: **E200.7**

Analysis Date: **03/26/18 15:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.973	0.050	1	0.04304	**93**	70	130	0.9754	**0.3**	20	
Calcium	90.7	1.0	50	37.83	**106**	70	130	91.34	**0.7**	20	
Magnesium	61.2	1.0	50	8.496	**105**	70	130	61.99	**1.3**	20	
Potassium	62.5	1.0	50	6.9	**111**	70	130	63.54	**1.7**	20	
Sodium	76.3	1.0	50	20.41	**112**	70	130	77.45	**1.5**	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 116** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/26/18 16:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	**99**	90	110				
Calcium	24.2	1.0	25	0	**97**	90	110				
Magnesium	23.7	1.0	25	0	**95**	90	110				
Potassium	23.8	1.0	25	0	**95**	90	110				
Sodium	23.9	1.0	25	0	**96**	90	110				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICP2-HE_180326A: 130** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001BMS2** Method: **E200.7**

Analysis Date: **03/26/18 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.933	0.050	1	0.02198	**91**	70	130				
Calcium	71.0	1.0	50	17.64	**107**	70	130				
Magnesium	58.0	1.0	50	5.066	**106**	70	130				
Potassium	59.9	1.0	50	4.952	**110**	70	130				
Sodium	63.6	1.0	50	8.516	**110**	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 131** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-001BMSD2** Method: **E200.7**

Analysis Date: **03/26/18 17:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.968	0.050	1	0.02198	**95**	70	130	0.933	**3.7**	20	
Calcium	67.0	1.0	50	17.64	**99**	70	130	71.03	**5.8**	20	
Magnesium	54.2	1.0	50	5.066	**98**	70	130	57.98	**6.8**	20	
Potassium	58.0	1.0	50	4.952	**106**	70	130	59.87	**3.1**	20	
Sodium	61.9	1.0	50	8.516	**107**	70	130	63.55	**2.7**	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/26/18 17:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0600	0.10	0.06	0	**100**	90	110				
Cadmium	0.0300	0.0010	0.03	0	**100**	90	110				
Chromium	0.0602	0.010	0.06	0	**100**	90	110				
Cobalt	0.0610	0.010	0.06	0	**102**	90	110				
Copper	0.0616	0.010	0.06	0	**103**	90	110				
Iron	0.303	0.020	0.3	0	**101**	90	110				
Lead	0.0593	0.010	0.06	0	**99**	90	110				
Manganese	0.309	0.010	0.3	0	**103**	90	110				
Molybdenum	0.0578	0.0050	0.06	0	**96**	90	110				
Nickel	0.0615	0.010	0.06	0	**103**	90	110				
Selenium	0.0596	0.0050	0.06	0	**99**	90	110				
Silver	0.0301	0.0050	0.03	0	**100**	90	110				
Uranium	0.0551	0.0010	0.06	0	**92**	90	110				
Vanadium	0.0593	0.10	0.06	0	**99**	90	110				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/26/18 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	4.57E-05	0.10		0							
Cadmium	0.000116	0.0010		0							
Chromium	0.00120	0.010		0							
Cobalt	1.94E-05	0.010		0							
Copper	8.07E-05	0.010		0							
Iron	98.0	0.020	100	0	**98**	70	130				
Lead	6.52E-05	0.010		0							
Manganese	0.000276	0.010		0							
Molybdenum	0.793	0.0050	0.8	0	**99**	70	130				
Nickel	3.19E-05	0.010		0							
Selenium	4.98E-05	0.0050		0							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/26/18 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	6.10E-05	0.0050		0							
Uranium	1.65E-05	0.0010		0							
Vanadium	-9.40E-05	0.10		0							

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/26/18 17:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	3.89E-05	0.10		0		0	0				
Cadmium	0.00985	0.0010	0.01	0	98	70	130				
Chromium	0.0207	0.010	0.02	0	103	70	130				
Cobalt	0.0196	0.010	0.02	0	98	70	130				
Copper	0.0192	0.010	0.02	0	96	70	130				
Iron	97.4	0.020	100	0	97	70	130				
Lead	4.80E-05	0.010		0		0	0				
Manganese	0.0198	0.010	0.02	0	99	70	130				
Molybdenum	0.788	0.0050	0.8	0	99	70	130				
Nickel	0.0192	0.010	0.02	0	96	70	130				
Selenium	0.00994	0.0050	0.01	0	99	70	130				
Silver	0.0192	0.0050	0.02	0	96	70	130				
Uranium	5.33E-06	0.0010		0		0	0				
Vanadium	0.0196	0.10	0.02	0	98	70	130				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **03/26/18 17:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0030									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Cobalt	ND	0.010									
Copper	ND	0.0010									
Iron	ND	0.020									
Lead	ND	0.00030									
Manganese	ND	0.0010									
Molybdenum	ND	0.0050									
Nickel	ND	0.0020									
Selenium	ND	0.0010									
Silver	ND	0.00020									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180326C: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/26/18 17:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0488	0.10	0.05	0	**98**	85	115				
Cadmium	0.0481	0.0010	0.05	0	**96**	85	115				
Chromium	0.0481	0.010	0.05	0	**96**	85	115				
Cobalt	0.0487	0.010	0.05	0	**97**	85	115				
Copper	0.0495	0.010	0.05	0	**99**	85	115				
Iron	0.151	0.020	0.15	0	**101**	85	115				
Lead	0.0476	0.010	0.05	0	**95**	85	115				
Manganese	0.0493	0.010	0.05	0.00003641	**98**	85	115				
Molybdenum	0.0463	0.0050	0.05	0	**93**	85	115				
Nickel	0.0492	0.010	0.05	0	**98**	85	115				
Selenium	0.0475	0.0050	0.05	0	**95**	85	115				
Silver	0.0196	0.0050	0.02	0	**98**	85	115				
Uranium	0.0450	0.0010	0.05	0	**90**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/26/18 17:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0472	0.10	0.05	0	94	85	115				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180326C: 207** SampType: **Sample Matrix Spike** Lab ID: **H18030365-003BMS** Method: **E200.8**

Analysis Date: **03/27/18 00:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0869	0.050	0.05	0.0418	90	70	130				
Cadmium	0.0481	0.0010	0.05	0.00009648	96	70	130				
Chromium	0.0471	0.0050	0.05	0.0001899	94	70	130				
Cobalt	0.0447	0.0050	0.05	0.0002815	89	70	130				
Copper	0.0505	0.0050	0.05	0.007291	86	70	130				
Iron	0.280	0.020	0.15	0.1455	90	70	130				
Lead	0.0488	0.0010	0.05	0.0002113	97	70	130				
Manganese	0.201	0.0010	0.05	0.1615	79	70	130				
Molybdenum	0.0528	0.0010	0.05	0.005133	95	70	130				
Nickel	0.0442	0.0050	0.05	0.0009661	87	70	130				
Selenium	0.0495	0.0010	0.05	0.0001709	99	70	130				
Silver	0.0183	0.0010	0.02	0	91	70	130				
Uranium	0.0514	0.00030	0.05	0.00464	94	70	130				
Vanadium	0.0504	0.010	0.05	0.001845	97	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180326C: 208** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-003BMSD** Method: **E200.8**

Analysis Date: **03/27/18 00:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0879	0.050	0.05	0.0418	92	70	130	0.0869	1.2	20	
Cadmium	0.0486	0.0010	0.05	0.00009648	97	70	130	0.0481	1.1	20	
Chromium	0.0468	0.0050	0.05	0.0001899	93	70	130	0.04714	0.8	20	
Cobalt	0.0446	0.0050	0.05	0.0002815	89	70	130	0.0447	0.3	20	
Copper	0.0504	0.0050	0.05	0.007291	86	70	130	0.0505	0.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 208** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-003BMSD** Method: **E200.8**

Analysis Date: **03/27/18 00:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.278	0.020	0.15	0.1455	89	70	130	0.28	0.6	20	
Lead	0.0493	0.0010	0.05	0.0002113	98	70	130	0.04885	1.0	20	
Manganese	0.200	0.0010	0.05	0.1615	78	70	130	0.201	0.3	20	
Molybdenum	0.0533	0.0010	0.05	0.005133	96	70	130	0.05276	0.9	20	
Nickel	0.0442	0.0050	0.05	0.0009661	87	70	130	0.04425	0.0	20	
Selenium	0.0492	0.0010	0.05	0.0001709	98	70	130	0.04948	0.5	20	
Silver	0.0186	0.0010	0.02	0	93	70	130	0.01828	1.5	20	
Uranium	0.0518	0.00030	0.05	0.00464	94	70	130	0.05142	0.7	20	
Vanadium	0.0498	0.010	0.05	0.001845	96	70	130	0.05042	1.3	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180326C: 233** SampType: **Sample Matrix Spike** Lab ID: **H18030365-013BMS** Method: **E200.8**

Analysis Date: **03/27/18 01:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0873	0.050	0.05	0.03834	98	70	130				
Cadmium	0.0493	0.0010	0.05	0.0002424	98	70	130				
Chromium	0.0471	0.0050	0.05	0.00009279	94	70	130				
Cobalt	0.0451	0.0050	0.05	0.0004602	89	70	130				
Copper	0.0595	0.0050	0.05	0.01575	87	70	130				
Iron	0.226	0.020	0.15	0.08463	94	70	130				
Lead	0.0497	0.0010	0.05	0.0003252	99	70	130				
Manganese	0.264	0.0010	0.05	0.2177		70	130				A
Molybdenum	0.0524	0.0010	0.05	0.003541	98	70	130				
Nickel	0.0447	0.0050	0.05	0.0008411	88	70	130				
Selenium	0.0504	0.0010	0.05	0.0003249	100	70	130				
Silver	0.0186	0.0010	0.02	0.00001101	93	70	130				
Uranium	0.0513	0.00030	0.05	0.003657	95	70	130				
Vanadium	0.0504	0.010	0.05	0.001569	98	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 234** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-013BMSD** Method: **E200.8**

Analysis Date: **03/27/18 01:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0872	0.050	0.05	0.03834	98	70	130	0.08732	0.1	20	
Cadmium	0.0491	0.0010	0.05	0.0002424	98	70	130	0.0493	0.5	20	
Chromium	0.0472	0.0050	0.05	0.00009279	94	70	130	0.04711	0.1	20	
Cobalt	0.0448	0.0050	0.05	0.0004602	89	70	130	0.04508	0.6	20	
Copper	0.0589	0.0050	0.05	0.01575	86	70	130	0.05947	1.0	20	
Iron	0.225	0.020	0.15	0.08463	93	70	130	0.2257	0.4	20	
Lead	0.0492	0.0010	0.05	0.0003252	98	70	130	0.04968	1.0	20	
Manganese	0.263	0.0010	0.05	0.2177		70	130	0.2642	0.5	20	A
Molybdenum	0.0517	0.0010	0.05	0.003541	96	70	130	0.05238	1.3	20	
Nickel	0.0443	0.0050	0.05	0.0008411	87	70	130	0.04468	0.8	20	
Selenium	0.0499	0.0010	0.05	0.0003249	99	70	130	0.05039	1.1	20	
Silver	0.0186	0.0010	0.02	0.00001101	93	70	130	0.01858	0.1	20	
Uranium	0.0506	0.00030	0.05	0.003657	94	70	130	0.05129	1.3	20	
Vanadium	0.0503	0.010	0.05	0.001569	97	70	130	0.05039	0.2	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180326C: 293** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 03:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0596	0.10	0.06	0	99	90	110				
Cadmium	0.0300	0.0010	0.03	0	100	90	110				
Chromium	0.0608	0.010	0.06	0	101	90	110				
Cobalt	0.0614	0.010	0.06	0	102	90	110				
Copper	0.0620	0.010	0.06	0	103	90	110				
Iron	0.298	0.020	0.3	0	100	90	110				
Lead	0.0595	0.010	0.06	0	99	90	110				
Manganese	0.308	0.010	0.3	0	103	90	110				
Molybdenum	0.0592	0.0050	0.06	0	99	90	110				
Nickel	0.0622	0.010	0.06	0	104	90	110				
Selenium	0.0599	0.0050	0.06	0	100	90	110				
Silver	0.0304	0.0050	0.03	0	101	90	110				
Uranium	0.0558	0.0010	0.06	0	93	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 293** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 03:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0596	0.10	0.06	0	99	90	110				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 294** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 03:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	5.36E-05	0.10		0							
Cadmium	9.69E-05	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	1.52E-05	0.010		0							
Copper	8.36E-05	0.010		0							
Iron	97.9	0.020	100	0	98	70	130				
Lead	6.14E-05	0.010		0							
Manganese	0.000209	0.010		0							
Molybdenum	0.798	0.0050	0.8	0	100	70	130				
Nickel	4.35E-05	0.010		0							
Selenium	4.93E-05	0.0050		0							
Silver	7.06E-05	0.0050		0							
Uranium	1.34E-05	0.0010		0							
Vanadium	-0.000178	0.10		0							

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180326C: 295** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 03:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	4.01E-05	0.10		0		0	0				
Cadmium	0.00999	0.0010	0.01	0	100	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 295** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 03:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0206	0.010	0.02	0	**103**	70	130				
Cobalt	0.0195	0.010	0.02	0	**98**	70	130				
Copper	0.0193	0.010	0.02	0	**97**	70	130				
Iron	97.7	0.020	100	0	**98**	70	130				
Lead	4.44E-05	0.010		0		0	0				
Manganese	0.0198	0.010	0.02	0	**99**	70	130				
Molybdenum	0.787	0.0050	0.8	0	**98**	70	130				
Nickel	0.0197	0.010	0.02	0	**98**	70	130				
Selenium	0.0100	0.0050	0.01	0	**100**	70	130				
Silver	0.0197	0.0050	0.02	0	**98**	70	130				
Uranium	3.20E-06	0.0010		0		0	0				
Vanadium	0.0194	0.10	0.02	0	**97**	70	130				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133372

Run ID :Run Order: **PHSC_101-H_180327A: 39** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **03/27/18 10:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	4.0									

Associated samples: **H18030365-062A**

Run ID :Run Order: **PHSC_101-H_180327A: 40** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **03/27/18 10:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	560	4.0	600	1.92	**93**	90	110				

Associated samples: **H18030365-062A**

Run ID :Run Order: **PHSC_101-H_180327A: 43** SampType: **Sample Duplicate** Lab ID: **H18030365-062ADUP** Method: **A2320 B**

Analysis Date: **03/27/18 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	100	4.0		0				104.2	**0.5**	10	
Bicarbonate as HCO3	130	4.0		0				126.5	**0.5**	10	

Associated samples: **H18030365-062A**

Run ID :Run Order: **PHSC_101-H_180327A: 73** SampType: **Sample Duplicate** Lab ID: **H18030381-001ADUP** Method: **A2320 B**

Analysis Date: **03/27/18 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	160	4.0		0				161.8	**0.1**	10	
Bicarbonate as HCO3	200	4.0		0				196.8	**0.1**	10	

Associated samples: **H18030365-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133376

Run ID :Run Order: **HGCV202-H_180327A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **03/27/18 09:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	95	105				

Associated samples: **H18030365-001B, H18030365-001C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133377

Run ID :Run Order: **FIA203-HE_180327A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**
Analysis Date: **03/27/18 09:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0247	0.10		0		0	0				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **03/27/18 09:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.464	0.10	0.5	0	93	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 65** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **03/27/18 10:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.495	0.10	0.5	0	99	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 66** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**
Analysis Date: **03/27/18 10:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0222	0.10		0		0	0				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 82** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **03/27/18 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.500	0.10	0.5	0	100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133377

Run ID :Run Order: **FIA203-HE_180327A: 82** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/27/18 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 96** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/27/18 10:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.489	0.10	0.5	0	**98**	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Run ID :Run Order: **FIA203-HE_180327A: 112** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/27/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.482	0.10	0.5	0	**96**	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133379

Run ID :Run Order: **IC METROHM_180326A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **03/26/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	1.0									
Sulfate	ND	1.0									

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **03/26/18 11:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	104	1.0	100	0	104	90	110				
Sulfate	418	1.0	400	0	105	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **03/26/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.8	1.0	25	0.01	95	90	110				
Sulfate	96.2	1.0	100	0	96	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **03/26/18 15:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.2	1.0	50	0	104	90	110				
Sulfate	210	1.0	200	0	105	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133379

Run ID :Run Order: **IC METROHM_180326A: 32** SampType: **Sample Matrix Spike** Lab ID: **H18030365-002AMS** Method: **E300.0**

Analysis Date: **03/26/18 18:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	69.1	1.0	25	44.35	99	90	110				
Sulfate	186	1.0	100	87.2	99	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-002AMSD** Method: **E300.0**

Analysis Date: **03/26/18 19:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	69.3	1.0	25	44.35	100	90	110	69.07	0.3	20	
Sulfate	187	1.0	100	87.2	99	90	110	185.7	0.4	20	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 34** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **03/26/18 19:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.4	1.0	50	0	105	90	110				
Sulfate	210	1.0	200	0	105	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 46** SampType: **Sample Matrix Spike** Lab ID: **H18030365-012AMS** Method: **E300.0**

Analysis Date: **03/26/18 22:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.7	1.0	25	0.1	98	90	110				
Sulfate	98.8	1.0	100	0	99	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133379

Run ID :Run Order: **IC METROHM_180326A: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-012AMSD** Method: **E300.0**

Analysis Date: **03/26/18 22:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.7	1.0	25	0.1	98	90	110	24.71	0.0	20	
Sulfate	98.8	1.0	100	0	99	90	110	98.79	0.0	20	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 48** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **03/26/18 23:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.0	1.0	50	0	106	90	110				
Sulfate	212	1.0	200	0	106	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 58** SampType: **Sample Matrix Spike** Lab ID: **H18030366-003AMS** Method: **E300.0**

Analysis Date: **03/27/18 01:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.3	1.0	25	0.882	98	90	110				
Sulfate	124	1.0	100	25.54	98	90	110				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **IC METROHM_180326A: 59** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-003AMSD** Method: **E300.0**

Analysis Date: **03/27/18 02:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.5	1.0	25	0.882	98	90	110	25.28	0.7	20	
Sulfate	124	1.0	100	25.54	99	90	110	123.9	0.5	20	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.313	0.10	0.3	0	104	90	110				
Antimony	0.0611	0.050	0.06	0	102	90	110				
Arsenic	0.0604	0.0050	0.06	0	101	90	110				
Barium	0.0611	0.10	0.06	0	102	90	110				
Beryllium	0.0298	0.0010	0.03	0	99	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0596	0.010	0.06	0	99	90	110				
Lead	0.0600	0.010	0.06	0	100	90	110				
Manganese	0.311	0.010	0.3	0	104	90	110				
Molybdenum	0.0578	0.0050	0.06	0	96	90	110				
Selenium	0.0590	0.0050	0.06	0	98	90	110				
Uranium	0.0561	0.0010	0.06	0	94	90	110				
Vanadium	0.0594	0.10	0.06	0	99	90	110				
Zinc	0.0624	0.010	0.06	0	104	90	110				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.8	0.10	40	0	102	70	130				
Antimony	-1.69E-05	0.050		0							
Arsenic	4.44E-05	0.0050		0							
Barium	5.85E-05	0.10		0							
Beryllium	4.09E-05	0.0010		0							
Cadmium	0.000116	0.0010		0							
Chromium	0.00119	0.010		0							
Lead	5.21E-05	0.010		0							
Manganese	0.000193	0.010		0							
Molybdenum	0.810	0.0050	0.8	0	101	70	130				
Selenium	1.77E-05	0.0050		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.21E-06	0.0010		0							
Vanadium	-0.000108	0.10		0							
Zinc	0.000315	0.010		0							

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.4	0.10	40	0	101	70	130				
Antimony	-5.35E-05	0.050		0		0	0				
Arsenic	0.0105	0.0050	0.01	0	105	70	130				
Barium	4.97E-05	0.10		0		0	0				
Beryllium	ND	0.0010		0		0	0				
Cadmium	0.0100	0.0010	0.01	0	100	70	130				
Chromium	0.0209	0.010	0.02	0	104	70	130				
Lead	4.45E-05	0.010		0		0	0				
Manganese	0.0206	0.010	0.02	0	103	70	130				
Molybdenum	0.806	0.0050	0.8	0	101	70	130				
Selenium	0.0101	0.0050	0.01	0	101	70	130				
Uranium	1.07E-06	0.0010		0		0	0				
Vanadium	0.0201	0.10	0.02	0	101	70	130				
Zinc	0.0100	0.010	0.01	0	100	70	130				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **03/27/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0090									
Antimony	ND	0.00050									
Arsenic	ND	0.0010									
Barium	ND	0.0030									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Chromium	ND	0.010									
Lead	ND	0.00030									
Manganese	ND	0.0010									
Molybdenum	ND	0.0050									
Selenium	ND	0.0010									
Uranium	ND	0.00020									
Vanadium	ND	0.10									

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180327A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/27/18 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.10	0.05	0	**102**	85	115				
Antimony	0.0496	0.050	0.05	0	**99**	85	115				
Arsenic	0.0478	0.0050	0.05	0	**96**	85	115				
Barium	0.0484	0.10	0.05	0	**97**	85	115				
Beryllium	0.0455	0.0010	0.05	0	**91**	85	115				
Cadmium	0.0485	0.0010	0.05	0	**97**	85	115				
Chromium	0.0472	0.010	0.05	0	**94**	85	115				
Lead	0.0475	0.010	0.05	0	**95**	85	115				
Manganese	0.0485	0.010	0.05	0.00003851	**97**	85	115				
Molybdenum	0.0465	0.0050	0.05	0	**93**	85	115				
Selenium	0.0470	0.0050	0.05	0	**94**	85	115				
Uranium	0.0449	0.0010	0.05	0	**90**	85	115				
Vanadium	0.0468	0.10	0.05	0	**94**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/27/18 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180327A: 145** SampType: **Sample Matrix Spike** Lab ID: **H18030364-016BMS** Method: **E200.8**

Analysis Date: **03/27/18 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0589	0.030	0.05	0.01333	91	70	130				
Antimony	0.0518	0.0010	0.05	0.0003723	103	70	130				
Arsenic	0.0580	0.0010	0.05	0.008789	98	70	130				
Barium	0.0812	0.050	0.05	0.03334	96	70	130				
Beryllium	0.0477	0.0010	0.05	0	95	70	130				
Cadmium	0.0480	0.0010	0.05	0.000172	96	70	130				
Chromium	0.0465	0.0050	0.05	0.00004615	93	70	130				
Lead	0.0489	0.0010	0.05	0.0005817	97	70	130				
Manganese	0.213	0.0010	0.05	0.1698	87	70	130				
Molybdenum	0.0527	0.0010	0.05	0.003819	98	70	130				
Selenium	0.0501	0.0010	0.05	0.0002276	100	70	130				
Uranium	0.0512	0.00030	0.05	0.00459	93	70	130				
Vanadium	0.0493	0.010	0.05	0.0009236	97	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180327A: 146** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030364-016BMSD** Method: **E200.8**

Analysis Date: **03/27/18 16:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0594	0.030	0.05	0.01333	92	70	130	0.05889	0.8	20	
Antimony	0.0509	0.0010	0.05	0.0003723	101	70	130	0.05185	1.8	20	
Arsenic	0.0572	0.0010	0.05	0.008789	97	70	130	0.05801	1.4	20	
Barium	0.0804	0.050	0.05	0.03334	94	70	130	0.08123	1.0	20	
Beryllium	0.0485	0.0010	0.05	0	97	70	130	0.04773	1.6	20	
Cadmium	0.0475	0.0010	0.05	0.000172	95	70	130	0.04803	1.0	20	
Chromium	0.0457	0.0050	0.05	0.00004615	91	70	130	0.04649	1.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 146** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030364-016BMSD** Method: **E200.8**

Analysis Date: **03/27/18 16:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0485	0.0010	0.05	0.0005817	96	70	130	0.04892	0.9	20	
Manganese	0.213	0.0010	0.05	0.1698	87	70	130	0.2131	0.1	20	
Molybdenum	0.0520	0.0010	0.05	0.003819	96	70	130	0.05274	1.5	20	
Selenium	0.0497	0.0010	0.05	0.0002276	99	70	130	0.05007	0.8	20	
Uranium	0.0510	0.00030	0.05	0.00459	93	70	130	0.05121	0.5	20	
Vanadium	0.0486	0.010	0.05	0.0009236	95	70	130	0.04929	1.5	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180327A: 186** SampType: **Sample Matrix Spike** Lab ID: **H18030365-009BMS** Method: **E200.8**

Analysis Date: **03/27/18 18:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0586	0.030	0.05	0.008064	101	70	130				
Antimony	0.0551	0.0010	0.05	0.0003424	109	70	130				
Arsenic	0.0618	0.0010	0.05	0.01076	102	70	130				
Barium	0.0985	0.050	0.05	0.04493	107	70	130				
Beryllium	0.0495	0.0010	0.05	0	99	70	130				
Cadmium	0.0498	0.0010	0.05	0.0002576	99	70	130				
Chromium	0.0468	0.0050	0.05	0.00009202	93	70	130				
Lead	0.0506	0.0010	0.05	0.0002937	101	70	130				
Manganese	0.343	0.0010	0.05	0.2909		70	130				A
Molybdenum	0.0548	0.0010	0.05	0.004243	101	70	130				
Selenium	0.0475	0.0010	0.05	0.000305	94	70	130				
Uranium	0.0534	0.00030	0.05	0.004574	98	70	130				
Vanadium	0.0509	0.010	0.05	0.00182	98	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180327A: 187** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-009BMSD** Method: **E200.8**

Analysis Date: **03/27/18 18:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0483	0.030	0.05	0.008064	80	70	130	0.05862	19	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 187** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-009BMSD** Method: **E200.8**

Analysis Date: **03/27/18 18:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0442	0.0010	0.05	0.0003424	88	70	130	0.05507	22	20	R
Arsenic	0.0511	0.0010	0.05	0.01076	81	70	130	0.06176	19	20	
Barium	0.0789	0.050	0.05	0.04493	68	70	130	0.09852	22	20	SR
Beryllium	0.0394	0.0010	0.05	0	79	70	130	0.04946	23	20	R
Cadmium	0.0407	0.0010	0.05	0.0002576	81	70	130	0.04983	20	20	R
Chromium	0.0388	0.0050	0.05	0.00009202	77	70	130	0.04683	19	20	
Lead	0.0413	0.0010	0.05	0.0002937	82	70	130	0.05058	20	20	R
Manganese	0.285	0.0010	0.05	0.2909		70	130	0.3426	18	20	A
Molybdenum	0.0440	0.0010	0.05	0.004243	80	70	130	0.05477	22	20	R
Selenium	0.0321	0.0010	0.05	0.000305	64	70	130	0.04751	39	20	SR
Uranium	0.0432	0.00030	0.05	0.004574	77	70	130	0.05338	21	20	R
Vanadium	0.0419	0.010	0.05	0.00182	80	70	130	0.05089	19	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180327A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.315	0.10	0.3	0	105	90	110				
Antimony	0.0619	0.050	0.06	0	103	90	110				
Arsenic	0.0614	0.0050	0.06	0	102	90	110				
Barium	0.0614	0.10	0.06	0	102	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0620	0.010	0.06	0	103	90	110				
Lead	0.0610	0.010	0.06	0	102	90	110				
Manganese	0.318	0.010	0.3	0	106	90	110				
Molybdenum	0.0592	0.0050	0.06	0	99	90	110				
Selenium	0.0608	0.0050	0.06	0	101	90	110				
Uranium	0.0570	0.0010	0.06	0	95	90	110				
Vanadium	0.0616	0.10	0.06	0	103	90	110				
Zinc	0.0630	0.010	0.06	0	105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 225** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 19:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.4	0.10	40	0	**98**	70	130				
Antimony	-1.14E-05	0.050		0							
Arsenic	4.86E-05	0.0050		0							
Barium	6.96E-05	0.10		0							
Beryllium	3.94E-05	0.0010		0							
Cadmium	0.000105	0.0010		0							
Chromium	0.00125	0.010		0							
Lead	5.63E-05	0.010		0							
Manganese	0.000204	0.010		0							
Molybdenum	0.817	0.0050	0.8	0	**102**	70	130				
Selenium	3.27E-05	0.0050		0							
Uranium	9.32E-06	0.0010		0							
Vanadium	-7.55E-05	0.10		0							
Zinc	0.000276	0.010		0							

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 226** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 19:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.8	0.10	40	0	**97**	70	130				
Antimony	-6.40E-05	0.050		0		0	0				
Arsenic	0.0105	0.0050	0.01	0	**105**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 226** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 19:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	5.80E-05	0.10		0		0	0				
Beryllium	-1.38E-05	0.0010		0		0	0				
Cadmium	0.00986	0.0010	0.01	0	99	70	130				
Chromium	0.0215	0.010	0.02	0	108	70	130				
Lead	4.60E-05	0.010		0		0	0				
Manganese	0.0210	0.010	0.02	0	105	70	130				
Molybdenum	0.805	0.0050	0.8	0	101	70	130				
Selenium	0.0102	0.0050	0.01	0	102	70	130				
Uranium	4.65E-06	0.0010		0		0	0				
Vanadium	0.0204	0.10	0.02	0	102	70	130				
Zinc	0.0101	0.010	0.01	0	101	70	130				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 284** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 22:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0602	0.050	0.06	0	100	90	110				
Arsenic	0.0600	0.0050	0.06	0	100	90	110				
Barium	0.0597	0.10	0.06	0	100	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0616	0.010	0.06	0	103	90	110				
Lead	0.0601	0.010	0.06	0	100	90	110				
Manganese	0.311	0.010	0.3	0	104	90	110				
Molybdenum	0.0591	0.0050	0.06	0	99	90	110				
Selenium	0.0602	0.0050	0.06	0	100	90	110				
Uranium	0.0559	0.0010	0.06	0	93	90	110				
Vanadium	0.0613	0.10	0.06	0	102	90	110				
Zinc	0.0629	0.010	0.06	0	105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 284** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 22:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 285** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 22:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.6	0.10	40	0	**99**	70	130				
Antimony	5.14E-05	0.050		0							
Arsenic	4.55E-05	0.0050		0							
Barium	5.52E-05	0.10		0							
Beryllium	3.31E-05	0.0010		0							
Cadmium	0.000116	0.0010		0							
Chromium	0.00122	0.010		0							
Lead	5.47E-05	0.010		0							
Manganese	0.000179	0.010		0							
Molybdenum	0.829	0.0050	0.8	0	**104**	70	130				
Selenium	1.29E-05	0.0050		0							
Uranium	7.98E-06	0.0010		0							
Vanadium	-0.000109	0.10		0							
Zinc	0.000313	0.010		0							

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Run ID :Run Order: **ICPMS205-H_180327A: 286** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 22:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.6	0.10	40	0	**96**	70	130				
Antimony	-3.14E-05	0.050		0		0	0				
Arsenic	0.0105	0.0050	0.01	0	**105**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 286** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 22:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	5.14E-05	0.10		0		0	0				
Beryllium	3.34E-05	0.0010		0		0	0				
Cadmium	0.0101	0.0010	0.01	0	101	70	130				
Chromium	0.0213	0.010	0.02	0	106	70	130				
Lead	4.57E-05	0.010		0		0	0				
Manganese	0.0205	0.010	0.02	0	102	70	130				
Molybdenum	0.804	0.0050	0.8	0	101	70	130				
Selenium	0.0102	0.0050	0.01	0	102	70	130				
Uranium	2.60E-06	0.0010		0		0	0				
Vanadium	0.0204	0.10	0.02	0	102	70	130				
Zinc	0.0102	0.010	0.01	0	102	70	130				

Associated samples: **H18030365-001B, H18030365-001C, H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133390

Run ID :Run Order: **ICP2-HE_180327A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/27/18 09:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	**100**	95	105				
Boron	0.780	0.10	0.8	0	**98**	95	105				
Calcium	39.7	1.0	40	0	**99**	95	105				
Magnesium	39.1	1.0	40	0	**98**	95	105				
Potassium	39.7	1.0	40	0	**99**	95	105				
Sodium	39.6	1.0	40	0	**99**	95	105				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/27/18 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.04	0.10	4	0	**101**	95	105				
Boron	0.812	0.10	0.8	0	**102**	95	105				
Calcium	39.8	1.0	40	0	**100**	95	105				
Magnesium	39.4	1.0	40	0	**99**	95	105				
Potassium	39.3	1.0	40	0	**98**	95	105				
Sodium	39.3	1.0	40	0	**98**	95	105				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 13** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/27/18 10:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.10	2.5	0	**99**	95	105				
Boron	2.54	0.10	2.5	0	**101**	95	105				
Calcium	25.0	1.0	25	0	**100**	95	105				
Magnesium	24.7	1.0	25	0	**99**	95	105				
Potassium	23.9	1.0	25	0	**96**	95	105				
Sodium	24.0	1.0	25	0	**96**	95	105				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R133390

Run ID :Run Order: **ICP2-HE_180327A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/27/18 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	0.10	500	0	**104**	80	120				
Boron	0.00328	0.10		0		0	0				
Calcium	468	1.0	500	0	**94**	80	120				
Magnesium	509	1.0	500	0	**102**	80	120				
Potassium	-0.0728	1.0		0		0	0				
Sodium	0.00259	1.0		0		0	0				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/27/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	**106**	80	120				
Boron	0.986	0.10	1	0	**99**	80	120				
Calcium	470	1.0	500	0	**94**	80	120				
Magnesium	511	1.0	500	0	**102**	80	120				
Potassium	20.0	1.0	20	0	**100**	80	120				
Sodium	20.2	1.0	20	0	**101**	80	120				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 116** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/27/18 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	**101**	90	110				
Boron	2.45	0.10	2.5	0	**98**	90	110				
Calcium	24.6	1.0	25	0	**98**	90	110				
Magnesium	24.0	1.0	25	0	**96**	90	110				
Potassium	24.8	1.0	25	0	**99**	90	110				
Sodium	24.9	1.0	25	0	**100**	90	110				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133390

Run ID :Run Order: **ICP2-HE_180327A: 128** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/27/18 17:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.10	2.5	0	**101**	90	110				
Boron	2.44	0.10	2.5	0	**98**	90	110				
Calcium	24.6	1.0	25	0	**98**	90	110				
Magnesium	23.9	1.0	25	0	**96**	90	110				
Potassium	24.2	1.0	25	0	**97**	90	110				
Sodium	24.4	1.0	25	0	**98**	90	110				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Run ID :Run Order: **ICP2-HE_180327A: 147** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/27/18 18:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.10	2.5	0	**98**	90	110				
Boron	2.44	0.10	2.5	0	**98**	90	110				
Calcium	24.5	1.0	25	0	**98**	90	110				
Magnesium	24.2	1.0	25	0	**97**	90	110				
Potassium	24.3	1.0	25	0	**97**	90	110				
Sodium	24.4	1.0	25	0	**98**	90	110				

Associated samples: **H18030365-001C, H18030365-002C, H18030365-003C, H18030365-004C, H18030365-005C, H18030365-006C, H18030365-007C, H18030365-008C, H18030365-009C, H18030365-010C, H18030365-011C, H18030365-012C, H18030365-013C, H18030365-014C, H18030365-015C, H18030365-016C, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133402

Run ID :Run Order: **FIA202-HE_180327A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **03/27/18 13:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.250	0.010	0.25	0	100	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **03/27/18 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.000470	0.010		0		0	0				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **03/27/18 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0945	0.010	0.1	0	95	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 57** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **03/27/18 14:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0970	0.010	0.1	0	97	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **03/27/18 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0968	0.010	0.1	0	97	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133402

Run ID :Run Order: **FIA202-HE_180327A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **03/27/18 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 93** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **03/27/18 15:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.253	0.010	0.25	0	**101**	90	110				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Run ID :Run Order: **FIA202-HE_180327A: 95** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **03/27/18 15:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00166	0.010		0		0	0				

Associated samples: **H18030365-001D, H18030365-002D, H18030365-003D, H18030365-004D, H18030365-005D, H18030365-006D, H18030365-007D, H18030365-008D, H18030365-009D, H18030365-010D, H18030365-011D, H18030365-012D, H18030365-013D, H18030365-014D, H18030365-015D, H18030365-016D, H18030365-062D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133421

Run ID :Run Order: **HGCV202-H_180328A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **03/29/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	95	105				

Associated samples: **H18030365-002B, H18030365-002C, H18030365-003B, H18030365-003C, H18030365-004B, H18030365-004C, H18030365-005B, H18030365-005C, H18030365-006B, H18030365-006C, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B, H18030365-062C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133435

Run ID :Run Order: **ICPMS205-H_180328A: 19** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/28/18 13:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0602	0.050	0.06	0	100	90	110				
Arsenic	0.0607	0.0050	0.06	0	101	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				
Lead	0.0594	0.010	0.06	0	99	90	110				
Molybdenum	0.0580	0.0050	0.06	0	97	90	110				
Selenium	0.0605	0.0050	0.06	0	101	90	110				
Uranium	0.0554	0.0010	0.06	0	92	90	110				
Zinc	0.0631	0.010	0.06	0	105	90	110				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 20** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/28/18 14:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	-9.08E-05	0.050		0							
Arsenic	3.66E-05	0.0050		0							
Barium	4.72E-05	0.10		0							
Beryllium	3.26E-05	0.0010		0							
Cadmium	0.000114	0.0010		0							
Lead	5.06E-05	0.010		0							
Molybdenum	0.816	0.0050	0.8	0	102	70	130				
Selenium	3.25E-05	0.0050		0							
Uranium	3.78E-06	0.0010		0							
Zinc	0.000279	0.010		0							

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133435

Run ID :Run Order: **ICPMS205-H_180328A: 21** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/28/18 14:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	-0.000111	0.050		0		0	0				
Arsenic	0.0106	0.0050	0.01	0	106	70	130				
Barium	6.83E-05	0.10		0		0	0				
Beryllium	-1.03E-05	0.0010		0		0	0				
Cadmium	0.00988	0.0010	0.01	0	99	70	130				
Lead	4.57E-05	0.010		0		0	0				
Molybdenum	0.803	0.0050	0.8	0	100	70	130				
Selenium	0.00991	0.0050	0.01	0	99	70	130				
Uranium	9.09E-07	0.0010		0		0	0				
Zinc	0.0102	0.010	0.01	0	102	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-007C, H18030365-008B, H18030365-008C, H18030365-009B, H18030365-009C, H18030365-010B, H18030365-010C, H18030365-011B, H18030365-011C, H18030365-012B, H18030365-012C, H18030365-013B, H18030365-013C, H18030365-014B, H18030365-014C, H18030365-015B, H18030365-015C, H18030365-016B, H18030365-016C, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 26** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **03/28/18 14:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.00050									
Barium	ND	0.0030									
Beryllium	ND	0.00080									
Cadmium	ND	0.20									
Lead	ND	0.00030									
Molybdenum	ND	0.0050									
Selenium	ND	0.0010									
Uranium	ND	0.00020									
Zinc	ND	0.0080									

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133435

Run ID :Run Order: **ICPMS205-H_180328A: 27** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/28/18 14:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0481	0.050	0.05	0	96	85	115				
Barium	0.0471	0.10	0.05	0	94	85	115				
Beryllium	0.0464	0.0010	0.05	0	93	85	115				
Cadmium	0.0479	0.0010	0.05	0	96	85	115				
Lead	0.0468	0.010	0.05	0	94	85	115				
Molybdenum	0.0460	0.0050	0.05	0	92	85	115				
Selenium	0.0474	0.0050	0.05	0	95	85	115				
Uranium	0.0441	0.0010	0.05	0	88	85	115				
Zinc	0.0501	0.010	0.05	0	100	85	115				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 36** SampType: **Sample Matrix Spike** Lab ID: **H18030348-020BMS** Method: **E200.8**

Analysis Date: **03/28/18 14:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0502	0.0010	0.05	0.000557	99	70	130				
Barium	0.0620	0.050	0.05	0.0142	96	70	130				
Beryllium	0.0486	0.0010	0.05	0.0001282	97	70	130				
Cadmium	0.0475	0.0010	0.05	0	95	70	130				
Lead	0.0474	0.0010	0.05	0.0003806	94	70	130				
Molybdenum	0.0475	0.0010	0.05	0.0007282	94	70	130				
Selenium	0.0505	0.0010	0.05	0	101	70	130				
Uranium	0.0457	0.00030	0.05	0.00006077	91	70	130				
Zinc	0.0614	0.010	0.05	0.01296	97	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030348-020BMSD** Method: **E200.8**

Analysis Date: **03/28/18 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0501	0.0010	0.05	0.000557	99	70	130	0.0502	0.2	20	
Barium	0.0615	0.050	0.05	0.0142	95	70	130	0.06196	0.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133435

Run ID :Run Order: **ICPMS205-H_180328A: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030348-020BMSD** Method: **E200.8**

Analysis Date: **03/28/18 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0476	0.0010	0.05	0.0001282	95	70	130	0.04862	2.1	20	
Cadmium	0.0470	0.0010	0.05	0	94	70	130	0.04746	0.9	20	
Lead	0.0467	0.0010	0.05	0.0003806	93	70	130	0.04741	1.6	20	
Molybdenum	0.0472	0.0010	0.05	0.0007282	93	70	130	0.04752	0.7	20	
Selenium	0.0498	0.0010	0.05	0	100	70	130	0.05048	1.3	20	
Uranium	0.0452	0.00030	0.05	0.00006077	90	70	130	0.04574	1.2	20	
Zinc	0.0607	0.010	0.05	0.01296	95	70	130	0.06142	1.2	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 63** SampType: **Sample Matrix Spike** Lab ID: **H18030365-008BMS** Method: **E200.8**

Analysis Date: **03/28/18 15:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0462	0.0010	0.05	0.0003264	92	70	130				
Barium	0.0785	0.050	0.05	0.03821	81	70	130				
Beryllium	0.0447	0.0010	0.05	0	89	70	130				
Cadmium	0.0441	0.0010	0.05	0.0001851	88	70	130				
Lead	0.0439	0.0010	0.05	0.0002511	87	70	130				
Molybdenum	0.0461	0.0010	0.05	0.003402	85	70	130				
Selenium	0.0326	0.0010	0.05	0.000236	65	70	130				S
Uranium	0.0452	0.00030	0.05	0.003028	84	70	130				
Zinc	0.128	0.010	0.05	0.08931	78	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-008BMSD** Method: **E200.8**

Analysis Date: **03/28/18 15:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0449	0.0010	0.05	0.0003264	89	70	130	0.04622	2.9	20	
Barium	0.0774	0.050	0.05	0.03821	78	70	130	0.07849	1.4	20	
Beryllium	0.0439	0.0010	0.05	0	88	70	130	0.04469	1.7	20	
Cadmium	0.0428	0.0010	0.05	0.0001851	85	70	130	0.04414	3.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133435

Run ID :Run Order: **ICPMS205-H_180328A: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-008BMSD** Method: **E200.8**

Analysis Date: **03/28/18 15:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0422	0.0010	0.05	0.0002511	84	70	130	0.04392	4.0	20	
Molybdenum	0.0448	0.0010	0.05	0.003402	83	70	130	0.04606	2.7	20	
Selenium	0.0435	0.0010	0.05	0.000236	86	70	130	0.03256	29	20	R
Uranium	0.0435	0.00030	0.05	0.003028	81	70	130	0.04525	4.0	20	
Zinc	0.125	0.010	0.05	0.08931	72	70	130	0.1283	2.5	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 88** SampType: **Sample Matrix Spike** Lab ID: **H18030365-062BMS** Method: **E200.8**

Analysis Date: **03/28/18 16:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0476	0.0010	0.05	0.0001987	95	70	130				
Barium	0.0871	0.050	0.05	0.04158	91	70	130				
Beryllium	0.0452	0.0010	0.05	0	90	70	130				
Cadmium	0.0451	0.0010	0.05	0.000251	90	70	130				
Lead	0.0449	0.0010	0.05	0.0002585	89	70	130				
Molybdenum	0.0480	0.0010	0.05	0.00399	88	70	130				
Selenium	0.0461	0.0010	0.05	0.0002414	92	70	130				
Uranium	0.0480	0.00030	0.05	0.004408	87	70	130				
Zinc	0.175	0.010	0.05	0.1292	92	70	130				

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Run ID :Run Order: **ICPMS205-H_180328A: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-062BMSD** Method: **E200.8**

Analysis Date: **03/28/18 16:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0471	0.0010	0.05	0.0001987	94	70	130	0.04761	1.0	20	
Barium	0.0857	0.050	0.05	0.04158	88	70	130	0.08712	1.6	20	
Beryllium	0.0450	0.0010	0.05	0	90	70	130	0.04517	0.3	20	
Cadmium	0.0447	0.0010	0.05	0.000251	89	70	130	0.04507	0.9	20	
Lead	0.0446	0.0010	0.05	0.0002585	89	70	130	0.04486	0.7	20	
Molybdenum	0.0474	0.0010	0.05	0.00399	87	70	130	0.04804	1.2	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133435

Run ID :Run Order: **ICPMS205-H_180328A: 89** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-062BMSD** Method: **E200.8**

Analysis Date: **03/28/18 16:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0463	0.0010	0.05	0.0002414	**92**	70	130	0.0461	**0.4**	20	
Uranium	0.0476	0.00030	0.05	0.004408	**86**	70	130	0.04801	**0.8**	20	
Zinc	0.174	0.010	0.05	0.1292	**89**	70	130	0.1754	**1.0**	20	

Associated samples: **H18030365-001B, H18030365-002B, H18030365-003B, H18030365-004B, H18030365-005B, H18030365-006B, H18030365-007B, H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B, H18030365-014B, H18030365-015B, H18030365-016B, H18030365-062B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133468

Run ID :Run Order: **ICPMS205-H_180329B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **03/29/18 15:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0604	0.0050	0.06	0	101	90	110				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/29/18 15:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	5.98E-05	0.0050		0							

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/29/18 15:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.00977	0.0050	0.01	0	98	70	130				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **03/29/18 15:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.0010									

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **03/29/18 15:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0477	0.0050	0.05	0	95	85	115				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133468

Run ID :Run Order: **ICPMS205-H_180329B: 37** SampType: **Sample Matrix Spike** Lab ID: **H18030365-008BMS** Method: **E200.8**
Analysis Date: **03/29/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0473	0.0010	0.05	0.000228	94	70	130				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 38** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-008BMSD** Method: **E200.8**
Analysis Date: **03/29/18 16:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0476	0.0010	0.05	0.000228	95	70	130	0.04731	0.7	20	

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 63** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **03/29/18 17:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0602	0.0050	0.06	0	100	90	110				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 64** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/29/18 17:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	3.57E-05	0.0050		0							

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Run ID :Run Order: **ICPMS205-H_180329B: 65** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/29/18 17:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.00964	0.0050	0.01	0	96	70	130				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133468

Run ID :Run Order: **ICPMS205-H_180329B: 162** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/29/18 22:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0604	0.0050	0.06	0	**101**	90	110				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Tune 2 Internal Standards failed

Run ID :Run Order: **ICPMS205-H_180329B: 163** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/29/18 22:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	6.90E-05	0.0050		0							

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Tune 2 Internal Standards failed

Run ID :Run Order: **ICPMS205-H_180329B: 164** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/29/18 22:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.00973	0.0050	0.01	0	**97**	70	130				

Associated samples: **H18030365-008B, H18030365-009B, H18030365-010B, H18030365-011B, H18030365-012B, H18030365-013B**

Tune 2 Internal Standards failed

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133496

Run ID :Run Order: **FIA203-HE_180330A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/30/18 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.511	0.10	0.5	0	102	90	110				

Associated samples: **H18030365-003A, H18030365-007A, H18030365-012A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **FIA203-HE_180330A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **03/30/18 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0128	0.10		0		0	0				

Associated samples: **H18030365-003A, H18030365-007A, H18030365-012A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133579

Run ID :Run Order: **ICP2-HE_180403B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/03/18 08:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	**102**	90	110				
Barium	0.802	0.10	0.8	0	**100**	90	110				
Copper	0.816	0.010	0.8	0	**102**	90	110				
Iron	4.05	0.030	4	0	**101**	90	110				
Manganese	4.00	0.010	4	0	**100**	90	110				
Zinc	0.805	0.010	0.8	0	**101**	90	110				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICP2-HE_180403B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/03/18 08:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	508	0.10	500	0	**102**	80	120				
Barium	-0.000290	0.10		0		0	0				
Copper	0.00181	0.010		0		0	0				
Iron	180	0.030	200	0	**90**	80	120				
Manganese	-0.00549	0.010		0		0	0				
Zinc	0.00126	0.010		0		0	0				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Run ID :Run Order: **ICP2-HE_180403B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/03/18 08:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	0.10	500	0	**104**	80	120				
Barium	0.488	0.10	0.5	0	**98**	80	120				
Copper	0.510	0.010	0.5	0	**102**	80	120				
Iron	184	0.030	200	0	**92**	80	120				
Manganese	0.458	0.010	0.5	0	**92**	80	120				
Zinc	0.950	0.010	1	0	**95**	80	120				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133589

Run ID :Run Order: **ICPMS205-H_180403C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/03/18 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0606	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0605	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0303	0.0010	0.03	0	**101**	90	110				
Cadmium	0.0305	0.0010	0.03	0	**102**	90	110				
Chromium	0.0606	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0610	0.0010	0.06	0	**102**	90	110				
Lead	0.0597	0.0010	0.06	0	**99**	90	110				
Molybdenum	0.0591	0.0010	0.06	0	**98**	90	110				
Nickel	0.0621	0.0010	0.06	0	**103**	90	110				
Selenium	0.0617	0.0010	0.06	0	**103**	90	110				
Silver	0.0306	0.0010	0.03	0	**102**	90	110				
Uranium	0.0561	0.00030	0.06	0	**93**	90	110				
Vanadium	0.0595	0.0010	0.06	0	**99**	90	110				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133606

Run ID :Run Order: **ICPMS205-H_180404B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/04/18 12:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0604	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0598	0.0010	0.06	0	**100**	90	110				
Beryllium	0.0307	0.0010	0.03	0	**102**	90	110				
Boron	0.0606	0.0013	0.06	0	**101**	90	110				
Cadmium	0.0302	0.0010	0.03	0	**101**	90	110				
Chromium	0.0602	0.0010	0.06	0	**100**	90	110				
Cobalt	0.0609	0.0010	0.06	0	**101**	90	110				
Lead	0.0598	0.0010	0.06	0	**100**	90	110				
Molybdenum	0.0584	0.0010	0.06	0	**97**	90	110				
Nickel	0.0614	0.0010	0.06	0	**102**	90	110				
Selenium	0.0608	0.0010	0.06	0	**101**	90	110				
Silver	0.0300	0.0010	0.03	0	**100**	90	110				
Uranium	0.0558	0.00030	0.06	0	**93**	90	110				
Vanadium	0.0589	0.0010	0.06	0	**98**	90	110				

Associated samples: **H18030365-017A, H18030365-020A, H18030365-023A, H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133634

Run ID :Run Order: **ICP2-HE_180404B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/04/18 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	**101**	90	110				
Copper	0.784	0.010	0.8	0	**98**	90	110				
Iron	4.03	0.030	4	0	**101**	90	110				
Manganese	3.94	0.010	4	0	**98**	90	110				
Zinc	0.792	0.010	0.8	0	**99**	90	110				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180404B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/04/18 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	520	0.10	500	0	**104**	80	120				
Copper	-0.00436	0.010		0		0	0				
Iron	185	0.030	200	0	**93**	80	120				
Manganese	-0.00771	0.010		0		0	0				
Zinc	0.00679	0.010		0		0	0				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180404B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/04/18 12:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524	0.10	500	0	**105**	80	120				
Copper	0.496	0.010	0.5	0	**99**	80	120				
Iron	187	0.030	200	0	**94**	80	120				
Manganese	0.464	0.010	0.5	0	**93**	80	120				
Zinc	1.00	0.010	1	0	**100**	80	120				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133670

Run ID :Run Order: **SOIL DRYING OVEN 2_180406A: 2** SampType: **Sample Duplicate** Lab ID: **H18030365-018ADUP** Method: **D2974**

Analysis Date: **04/06/18 09:13** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	23.0	0.20		0				22.86	**0.6**	20	

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180406A: 1** SampType: **Sample Duplicate** Lab ID: **H18030365-045ADUP** Method: **D2974**

Analysis Date: **04/06/18 09:13** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	21.9	0.20		0				22.91	**4.6**	20	

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133704

Run ID :Run Order: **ICP2-HE_180406B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/06/18 10:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	102	90	110				
Barium	0.797	0.10	0.8	0	100	90	110				
Boron	0.807	0.10	0.8	0	101	90	110				
Copper	0.799	0.010	0.8	0	100	90	110				
Iron	4.04	0.030	4	0	101	90	110				
Manganese	4.00	0.010	4	0	100	90	110				
Zinc	0.797	0.010	0.8	0	100	90	110				

Associated samples: **H18030365-018A, H18030365-019A, H18030365-021A, H18030365-022A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-028A, H18030365-030A, H18030365-031A, H18030365-033A, H18030365-034A, H18030365-036A, H18030365-037A, H18030365-039A, H18030365-040A, H18030365-042A, H18030365-043A, H18030365-045A, H18030365-046A, H18030365-048A, H18030365-049A, H18030365-051A, H18030365-052A, H18030365-054A, H18030365-055A, H18030365-057A, H18030365-058A, H18030365-060A, H18030365-061A**

Run ID :Run Order: **ICP2-HE_180406B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/06/18 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	0.10	500	0	104	80	120				
Barium	0.000130	0.10		0		0	0				
Boron	0.00472	0.10		0		0	0				
Copper	0.000810	0.010		0		0	0				
Iron	185	0.030	200	0	93	80	120				
Manganese	-0.00506	0.010		0		0	0				
Zinc	0.00107	0.010		0		0	0				

Associated samples: **H18030365-018A, H18030365-019A, H18030365-021A, H18030365-022A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-028A, H18030365-030A, H18030365-031A, H18030365-033A, H18030365-034A, H18030365-036A, H18030365-037A, H18030365-039A, H18030365-040A, H18030365-042A, H18030365-043A, H18030365-045A, H18030365-046A, H18030365-048A, H18030365-049A, H18030365-051A, H18030365-052A, H18030365-054A, H18030365-055A, H18030365-057A, H18030365-058A, H18030365-060A, H18030365-061A**

Run ID :Run Order: **ICP2-HE_180406B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/06/18 10:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524	0.10	500	0	105	80	120				
Barium	0.491	0.10	0.5	0	98	80	120				
Boron	0.973	0.10	1	0	97	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133704

Run ID :Run Order: **ICP2-HE_180406B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/06/18 10:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.498	0.010	0.5	0	**100**	80	120				
Iron	186	0.030	200	0	**93**	80	120				
Manganese	0.469	0.010	0.5	0	**94**	80	120				
Zinc	0.960	0.010	1	0	**96**	80	120				

Associated samples: **H18030365-018A, H18030365-019A, H18030365-021A, H18030365-022A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-028A, H18030365-030A, H18030365-031A, H18030365-033A, H18030365-034A, H18030365-036A, H18030365-037A, H18030365-039A, H18030365-040A, H18030365-042A, H18030365-043A, H18030365-045A, H18030365-046A, H18030365-048A, H18030365-049A, H18030365-051A, H18030365-052A, H18030365-054A, H18030365-055A, H18030365-057A, H18030365-058A, H18030365-060A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133750

Run ID :Run Order: **SOIL DRYING OVEN 2_180410A: 3** SampType: **Sample Duplicate** Lab ID: **H18030365-019ADUP** Method: **D2974**

Analysis Date: **04/10/18 09:05** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	19.2	0.20		0				20.5	**6.6**	20	

Associated samples: **H18030365-017A, H18030365-019A, H18030365-020A, H18030365-022A, H18030365-023A, H18030365-025A, H18030365-026A, H18030365-028A, H18030365-029A, H18030365-031A, H18030365-032A, H18030365-034A, H18030365-035A, H18030365-037A, H18030365-038A, H18030365-040A, H18030365-041A, H18030365-043A, H18030365-044A, H18030365-046A, H18030365-047A, H18030365-049A, H18030365-050A, H18030365-052A, H18030365-053A, H18030365-055A, H18030365-056A, H18030365-058A, H18030365-059A, H18030365-061A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180410A: 1** SampType: **Sample Duplicate** Lab ID: **H18030365-034ADUP** Method: **D2974**

Analysis Date: **04/10/18 09:05** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	18.6	0.20		0				17.81	**4.4**	20	

Associated samples: **H18030365-017A, H18030365-019A, H18030365-020A, H18030365-022A, H18030365-023A, H18030365-025A, H18030365-026A, H18030365-028A, H18030365-029A, H18030365-031A, H18030365-032A, H18030365-034A, H18030365-035A, H18030365-037A, H18030365-038A, H18030365-040A, H18030365-041A, H18030365-043A, H18030365-044A, H18030365-046A, H18030365-047A, H18030365-049A, H18030365-050A, H18030365-052A, H18030365-053A, H18030365-055A, H18030365-056A, H18030365-058A, H18030365-059A, H18030365-061A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180410A: 2** SampType: **Sample Duplicate** Lab ID: **H18030365-049ADUP** Method: **D2974**

Analysis Date: **04/10/18 09:05** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.3	0.20		0				21.39	**5.2**	20	

Associated samples: **H18030365-017A, H18030365-019A, H18030365-020A, H18030365-022A, H18030365-023A, H18030365-025A, H18030365-026A, H18030365-028A, H18030365-029A, H18030365-031A, H18030365-032A, H18030365-034A, H18030365-035A, H18030365-037A, H18030365-038A, H18030365-040A, H18030365-041A, H18030365-043A, H18030365-044A, H18030365-046A, H18030365-047A, H18030365-049A, H18030365-050A, H18030365-052A, H18030365-053A, H18030365-055A, H18030365-056A, H18030365-058A, H18030365-059A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133753

Run ID :Run Order: **ICP2-HE_180409B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/09/18 10:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.796	0.10	0.8	0	99	90	110				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/09/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	-0.000300	0.10		0		0	0				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Run ID :Run Order: **ICP2-HE_180409B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/09/18 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.493	0.10	0.5	0	99	80	120				

Associated samples: **H18030365-026A, H18030365-029A, H18030365-032A, H18030365-035A, H18030365-038A, H18030365-041A, H18030365-044A, H18030365-047A, H18030365-050A, H18030365-053A, H18030365-056A, H18030365-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R133782

Run ID :Run Order: **ICPMS205-H_180410B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/10/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0598	0.0010	0.06	0	**100**	90	110				
Arsenic	0.0605	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0328	0.0010	0.03	0	**109**	90	110				
Cadmium	0.0299	0.0010	0.03	0	**100**	90	110				
Chromium	0.0609	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0598	0.0010	0.06	0	**100**	90	110				
Lead	0.0604	0.0010	0.06	0	**101**	90	110				
Molybdenum	0.0576	0.0010	0.06	0	**96**	90	110				
Nickel	0.0615	0.0010	0.06	0	**102**	90	110				
Selenium	0.0600	0.0010	0.06	0	**100**	90	110				
Silver	0.0296	0.0010	0.03	0	**99**	90	110				
Uranium	0.0567	0.00030	0.06	0	**95**	90	110				
Vanadium	0.0601	0.0010	0.06	0	**100**	90	110				

Associated samples: **H18030365-018A, H18030365-019A, H18030365-021A, H18030365-022A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-028A, H18030365-030A, H18030365-031A, H18030365-033A, H18030365-034A, H18030365-036A, H18030365-037A, H18030365-039A, H18030365-040A, H18030365-042A, H18030365-043A, H18030365-045A, H18030365-046A, H18030365-048A, H18030365-049A, H18030365-051A, H18030365-052A, H18030365-054A, H18030365-055A, H18030365-057A, H18030365-058A, H18030365-060A, H18030365-061A**

Run ID :Run Order: **ICPMS205-H_180410B: 173** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/10/18 20:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0605	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0603	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0317	0.0010	0.03	0	**106**	90	110				
Cadmium	0.0304	0.0010	0.03	0	**101**	90	110				
Chromium	0.0606	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0600	0.0010	0.06	0	**100**	90	110				
Lead	0.0596	0.0010	0.06	0	**99**	90	110				
Molybdenum	0.0578	0.0010	0.06	0	**96**	90	110				
Nickel	0.0620	0.0010	0.06	0	**103**	90	110				
Selenium	0.0620	0.0010	0.06	0	**103**	90	110				
Silver	0.0301	0.0010	0.03	0	**100**	90	110				
Uranium	0.0576	0.00030	0.06	0	**96**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133782

Run ID :Run Order: **ICPMS205-H_180410B: 173** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/10/18 20:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0599	0.0010	0.06	0	**100**	90	110				

Associated samples: **H18030365-018A, H18030365-019A, H18030365-021A, H18030365-022A, H18030365-024A, H18030365-025A, H18030365-027A, H18030365-028A, H18030365-030A, H18030365-031A, H18030365-033A, H18030365-034A, H18030365-036A, H18030365-037A, H18030365-039A, H18030365-040A, H18030365-042A, H18030365-043A, H18030365-045A, H18030365-046A, H18030365-048A, H18030365-049A, H18030365-051A, H18030365-052A, H18030365-054A, H18030365-055A, H18030365-057A, H18030365-058A, H18030365-060A, H18030365-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133885

Run ID :Run Order: **ICPMS205-H_180411C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/11/18 20:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0304	0.0010	0.03	0	**101**	90	110				

Associated samples: **H18030365-018A, H18030365-021A, H18030365-024A, H18030365-027A, H18030365-030A, H18030365-033A, H18030365-036A, H18030365-039A, H18030365-042A, H18030365-045A, H18030365-048A, H18030365-051A, H18030365-054A, H18030365-057A, H18030365-060A**

Qualifiers:
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: R133942

Run ID :Run Order: **ICP2-HE_180416A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/16/18 09:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.806	0.10	0.8	0	101	90	110				

Associated samples: **H18030365-027A**

Run ID :Run Order: **ICP2-HE_180416A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/16/18 09:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00205	0.10		0		0	0				

Associated samples: **H18030365-027A**

Run ID :Run Order: **ICP2-HE_180416A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/16/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.999	0.10	1	0	100	80	120				

Associated samples: **H18030365-027A**

Qualifiers:
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
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Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: TSS180326A

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 2** SampType: **Method Blank** Lab ID: **MB-25_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1.0									

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	86.0	10	100	0	86	80	120				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 2** SampType: **Sample Duplicate** Lab ID: **H18030364-010ADUP** Method: **A2540 D**

Analysis Date: **03/26/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	5.50	10		0				5.167		5	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 3** SampType: **Sample Duplicate** Lab ID: **H18030365-003ADUP** Method: **A2540 D**

Analysis Date: **03/26/18 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	4.83	10		0				4.833		5	

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 4** SampType: **Method Blank** Lab ID: **MB-49_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	1.0									

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N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030365
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *17-Apr-18*

BatchID: TSS180326A

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 4** SampType: **Method Blank** Lab ID: **MB-49_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 5** SampType: **Laboratory Control Sample** Lab ID: **LCS-50_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	90.0	10	100	0	**90**	80	120				

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 5** SampType: **Sample Duplicate** Lab ID: **H18030365-013ADUP** Method: **A2540 D**

Analysis Date: **03/26/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	17.0	10		0				18.6	**9.0**	5	R

Associated samples: **H18030365-001A, H18030365-002A, H18030365-003A, H18030365-004A, H18030365-005A, H18030365-006A, H18030365-007A, H18030365-008A, H18030365-009A, H18030365-010A, H18030365-011A, H18030365-012A, H18030365-013A, H18030365-014A, H18030365-015A, H18030365-016A, H18030365-062A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18030365

Login completed by: Wanda Johnson
Date Received: 3/23/2018

Reviewed by: BL2000\rtooke
Received by: RAT

Reviewed Date: 4/4/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments.		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Sample SS-07 nutrient bottle did not have a time, used time from COC. Sample coolers had temperature blanks. Cooler 1 was received at 4.8C, Cooler 2 at 4.7C, Cooler 4.2C, Box 1 at 7.7, Box 2 at 8.1, coolers were received on ice. wj 3/23/18

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Chain of Custody & Analytical Request Record

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Account Information *(Billing information)*

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
C1	1 Field Blank #2 SS-06G	3-22-18	1430	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 4.8
C1	2 SS-06G	3-22-18	1445	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 4.7
C1	3 SS-07	3-22-18	1400	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 4.2
C1	4 SS-08	3-22-18	1245	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B1 7.7
C1	5 SS-08 Duplicate	3-22-18	1245	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B2 8.1
C2	6 SS-10A	3-22-18	1130	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18030365
C2	7 SS-11C	3-22-18	0900	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C2	8 SS-11D	3-22-18	0830	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C2	9 SS-13	3-21-18	1730	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	10 SS-14	3-21-18	1615	5	W	✓	✓	✓	✓	✓	✓	✓	✓				

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Erich Weber	3-23-18 12:44				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Toke	3/23/18 12:44	Rebecca Toke

Laboratory Use Only

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
hand	3x	Y (N) C B	Y N	see com °C	(Y) N no boxes	(Y) N no boxes	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

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Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

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Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

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Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
C3	1 SS-15A-2	3-21-18	1400	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 4.8
C3	2 Field Blank #1 SS-15B	3-21-18	1200	5	W	✓	✓	✓	✓	✓	✓	✓	✓				E2 4.7
C3	3 SS-15B	3-21-18	1245	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 4.2
C3	4 SS-16	3-21-18	1045	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B1 7.7
C3	5 SS-17D	3-21-18	0945	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B2 8.1
C3	6 SS-19	3-21-18	0845	5	W	✓	✓	✓	✓	✓	✓	✓	✓				1718030365
B1	7 SS-06G	3-22-18	1445	1	S									✓			
B1	8 SS-07	3-22-18	1400	1	S									✓			
B1	9 SS-08	3-22-18	1245	1	S									✓			
B1	10 SS-08 Duplicate	3-22-18	1245	1	S									✓			

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Erich Weber	3-23-18 12:44				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Teske	3/23/18 12:44	Rebecca Teske

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	3x	Y (N) C B	Y N	see com °C	(Y) N no boxes	(Y) N no boxes	CC Cash Check	$	

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Account Information *(Billing information)*

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones; Joe Naughton; Erich Weber
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
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DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Analysis Requested: Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	SS-10A	3-22-18	1130	1	S	✓			C1 4.8
2	SS-11C	3-22-18	0900	1	S	✓			C2 4.7
3	SS-11D	3-22-18	0830	1	S	✓			C3 4.2
4	SS-13	3-21-18	1730	1	S	✓			B1 7.7
5	SS-14	3-21-18	1615	1	S	✓			B2 8.1
6	SS-15A-2	3-21-18	1400	1	S	✓			H18030365
7	SS-15B	3-21-18	1245	1	S	✓			
8	SS-16	3-21-18	1045	1	S	✓			
9	SS-16 Duplicate	3-21-18	1045	1	S	✓			
10	SS-17D	3-21-18	0945	1	S	✓			

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Erich Weber	3-23-18 12:44				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Cooke	3/23/18 12:44	Rebecca Cooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
hand	3x	Y (N) C B	Y N	see com °C	(Y) N no boxes	(Y) N no boxes	CC Cash Check	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones; Joe Naughton; Erich Weber
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Tot Metals, dry weight (see list)	TR Metals (see list)	Diss Metals (see list)	TPN	NH_3, NO_3+NO_2, TP	TSS	Hardness (TR a+Mg)	Tot. Alkalinity, HCO_3	SO_4, Cl, K, Na	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	SS-19	3-21-18	0845	1	S	✓											C1 4.8
2	SS-14 Duplicate	3-21-18	1615	5	W		✓	✓	✓	✓	✓	✓	✓	✓			C2 4.7
3																	C3 4.2
4																	B1 7.7
5																	B2 8.1
6																	A18080365
7																	
8																	
9																	
10																	

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Erich Weber	3-23-18 12:44				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Tooke	3/23/18 12:44	Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	3x	Y (N) C B	Y N	see com °C	(Y) N no boxes	(Y) N no boxes	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

April 19, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18030366 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 14 samples for MT DEQ-Federal Superfund on 3/23/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18030366-001	SS-01	03/22/18 16:45	03/23/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water Nitrogen, Total Persulfate Phosphorus, Total Solids, Total Suspended
H18030366-002	SS-05A	03/22/18 15:30	03/23/18	Surface Water	Same As Above
H18030366-003	SS-15G	03/22/18 13:15	03/23/18	Surface Water	Same As Above
H18030366-004	SS-04 Sediment Sieve <0.065mm	03/22/18 16:30	03/23/18	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Digestion, Total Metals Sieve Analysis, Wet Soil Preparation
H18030366-005	SLAG-01 Sediment Sieve <0.065mm	03/22/18 15:45	03/23/18	Sediment	Same As Above
H18030366-006	SS-01 Sediment Sieve <0.065mm	03/22/18 16:45	03/23/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Digestion, Total Metals Digestion, Mercury by CVAA Sieve Analysis, Wet
H18030366-007	SS-01 Sediment Sieve 0.065-1mm	03/22/18 16:45	03/23/18	Sediment	Same As Above
H18030366-008	SS-01 Sediment Sieve 1-2mm	03/22/18 16:45	03/23/18	Sediment	Same As Above
H18030366-009	SS-05A Sediment Sieve <0.065mm	03/22/18 15:30	03/23/18	Sediment	Same As Above
H18030366-010	SS-05A Sediment Sieve 0.065-1mm	03/22/18 15:30	03/23/18	Sediment	Same As Above
H18030366-011	SS-05A Sediment Sieve 1-2mm	03/22/18 15:30	03/23/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18030366-012	SS-15G Sediment Sieve <0.065mm	03/22/18 13:15	03/23/18	Sediment	Same As Above
H18030366-013	SS-15G Sediment Sieve 0.065-1mm	03/22/18 13:15	03/23/18	Sediment	Same As Above
H18030366-014	SS-15G Sediment Sieve 1-2mm	03/22/18 13:15	03/23/18	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18030366-001
Collection Date: 03/22/18 16:45
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	115	mg/L	D	10	0.3	A2540 D	03/26/18 14:30 / km			l24 (14410200)_180326A	: 57	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	55	mg/L		4	0.7	A2320 B	03/27/18 10:41 / km			PHSC_101-H_180327A	: 45	R133372
Bicarbonate as HCO3	66	mg/L		4	0.7	A2320 B	03/27/18 10:41 / km			PHSC_101-H_180327A	: 45	R133372
Chloride	14	mg/L		1	0.003	E300.0	03/27/18 01:03 / SR			IC METROHM_180326A	: 55	R133379
Sulfate	12	mg/L		1	0.01	E300.0	03/27/18 01:03 / SR			IC METROHM_180326A	: 55	R133379
Hardness as CaCO3	75	mg/L		1	1	A2340 B	03/27/18 18:16 / sld			WATERCALC_180327D	: 4	R133391
NUTRIENTS												
Nitrogen, Ammonia as N	0.15	mg/L		0.05	0.02	E350.1	03/26/18 14:34 / cm			FIA203-HE_180326B	: 37	R133359
Nitrogen, Nitrate+Nitrite as N	0.41	mg/L		0.02	0.007	E353.2	03/26/18 10:59 / cm			FIA203-HE_180326A	: 104	R133339
Nitrogen, Total	1.07	mg/L		0.05	0.01	A4500 N-C	03/30/18 09:31 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	: 22	40964
Phosphorus, Total as P	0.617	mg/L		0.003	0.001	E365.1	03/27/18 15:08 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	: 96	40928
METALS, DISSOLVED												
Aluminum	0.015	mg/L		0.009	0.0007	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Antimony	0.00026	mg/L	J	0.0005	0.00002	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Arsenic	0.006	mg/L		0.001	0.00002	E200.8	03/27/18 14:12 / sld			ICPMS205-H_180327A	: 72	R133388
Barium	0.030	mg/L		0.003	0.00002	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Boron	0.022	mg/L	J	0.1	0.003	E200.7	03/26/18 16:41 / sld			ICP2-HE_180326A	: 126	R133366
Cadmium	0.00002	mg/L	J	0.00003	0.00002	E200.8	03/27/18 14:12 / sld			ICPMS205-H_180327A	: 72	R133388
Calcium	18	mg/L		1	0.01	E200.7	03/26/18 16:41 / sld			ICP2-HE_180326A	: 126	R133366
Chromium	0.00011	mg/L	J	0.01	0.00003	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Cobalt	0.00014	mg/L	J	0.01	0.00002	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Copper	0.009	mg/L		0.001	0.00004	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Iron	0.18	mg/L		0.02	0.002	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Lead	0.00028	mg/L	J	0.0003	0.00001	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Magnesium	5	mg/L		1	0.05	E200.7	03/26/18 16:41 / sld			ICP2-HE_180326A	: 126	R133366
Manganese	0.054	mg/L		0.001	0.00003	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Mercury	3.3E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 10:56 / PN	03/26/18 09:11	E245.1	HGCV202-H_180328A	: 37	40905
Molybdenum	0.0030	mg/L	J	0.005	0.00002	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Nickel	0.00036	mg/L	J	0.002	0.00003	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	: 115	R133370
Potassium	5	mg/L		1	0.05	E200.7	03/26/18 16:41 / sld			ICP2-HE_180326A	: 126	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18030366-001
Collection Date: 03/22/18 16:45
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00007	mg/L	J	0.001	0.00003	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	115	R133370
Silver	0.000015	mg/L	J	0.0002	8E-06	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	115	R133370
Sodium	9	mg/L		1	0.02	E200.7	03/26/18 16:41 / sld			ICP2-HE_180326A	126	R133366
Uranium	0.0013	mg/L		0.0002	3E-06	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	115	R133370
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	115	R133370
Zinc	0.009	mg/L		0.008	0.0001	E200.8	03/26/18 21:09 / sld			ICPMS205-H_180326C	115	R133370
METALS, TOTAL RECOVERABLE												
Aluminum	2.91	mg/L		0.009	0.003	E200.7	03/27/18 16:27 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	111	40906
Antimony	0.0007	mg/L		0.0005	0.00002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Arsenic	0.013	mg/L		0.001	0.00002	E200.8	03/27/18 14:15 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180327A	73	40906
Barium	0.069	mg/L		0.003	0.00006	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Boron	0.020	mg/L	J	0.1	0.002	E200.7	03/27/18 16:27 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	111	40906
Cadmium	0.00023	mg/L		0.00003	0.00002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Calcium	20	mg/L		1	0.01	E200.7	03/27/18 16:27 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	111	40906
Chromium	0.0035	mg/L	J	0.01	0.0002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Cobalt	0.0014	mg/L	J	0.01	0.00002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Copper	0.038	mg/L		0.001	0.0003	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Iron	4.12	mg/L		0.02	0.02	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Lead	0.0106	mg/L		0.0003	0.00003	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Magnesium	6	mg/L		1	0.09	E200.7	03/27/18 16:27 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	111	40906
Manganese	0.217	mg/L		0.001	0.0002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Mercury	0.0000370	mg/L		5E-06	1E-06	E245.1	03/29/18 10:59 / PN	03/26/18 09:11	E245.1	HGCV202-H_180328A	38	40905
Molybdenum	0.0034	mg/L	J	0.005	0.00003	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Nickel	0.002	mg/L		0.002	0.002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Potassium	6	mg/L		1	0.05	E200.7	03/27/18 16:27 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	111	40906
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Silver	0.0002	mg/L		0.0002	8E-06	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Sodium	9	mg/L		1	0.02	E200.7	03/27/18 16:27 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	111	40906
Uranium	0.0022	mg/L		0.0002	8E-06	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Vanadium	0.010	mg/L	J	0.1	0.00003	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906
Zinc	0.055	mg/L		0.008	0.002	E200.8	03/26/18 21:11 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	116	40906

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18030366-002
Collection Date: 03/22/18 15:30
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	21	mg/L	D	2	0.3	A2540 D	03/26/18 14:30 / km			124 (14410200)_180326A	58	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	93	mg/L		4	0.7	A2320 B	03/27/18 10:47 / km			PHSC_101-H_180327A	47	R133372
Bicarbonate as HCO3	110	mg/L		4	0.7	A2320 B	03/27/18 10:47 / km			PHSC_101-H_180327A	47	R133372
Chloride	27	mg/L		1	0.003	E300.0	03/27/18 01:17 / SR			IC METROHM_180326A	56	R133379
Sulfate	30	mg/L		1	0.01	E300.0	03/27/18 01:17 / SR			IC METROHM_180326A	56	R133379
Hardness as CaCO3	123	mg/L		1	1	A2340 B	03/26/18 17:03 / abc			CALC_180328B	894	R133425
NUTRIENTS												
Nitrogen, Ammonia as N	0.03	mg/L	J	0.05	0.02	E350.1	03/26/18 14:37 / cm			FIA203-HE_180326B	40	R133359
Nitrogen, Nitrate+Nitrite as N	0.77	mg/L		0.02	0.007	E353.2	03/26/18 11:03 / cm			FIA203-HE_180326A	107	R133339
Nitrogen, Total	1.21	mg/L		0.05	0.01	A4500 N-C	03/30/18 09:33 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	23	40964
Phosphorus, Total as P	0.177	mg/L		0.003	0.0006	E365.1	03/27/18 14:33 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	81	40928
METALS, DISSOLVED												
Aluminum	0.0029	mg/L	J	0.009	0.0007	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Antimony	0.00026	mg/L	J	0.0005	0.00002	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Arsenic	0.006	mg/L		0.001	0.00002	E200.8	03/27/18 14:17 / sld			ICPMS205-H_180327A	74	R133388
Barium	0.045	mg/L		0.003	0.00002	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Boron	0.037	mg/L	J	0.1	0.003	E200.7	03/26/18 17:03 / sld			ICP2-HE_180326A	132	R133366
Cadmium	0.00007	mg/L		0.00003	0.00002	E200.8	03/27/18 14:17 / sld			ICPMS205-H_180327A	74	R133388
Calcium	34	mg/L		1	0.01	E200.7	03/26/18 17:03 / sld			ICP2-HE_180326A	132	R133366
Chromium	0.00014	mg/L	J	0.01	0.00003	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Cobalt	0.00010	mg/L	J	0.01	0.00002	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Copper	0.006	mg/L		0.001	0.00004	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Iron	0.21	mg/L		0.02	0.002	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Lead	0.0005	mg/L		0.0003	0.00001	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Magnesium	10	mg/L		1	0.05	E200.7	03/26/18 17:03 / sld			ICP2-HE_180326A	132	R133366
Manganese	0.113	mg/L		0.001	0.00003	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Mercury	2.4E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 11:02 / PN	03/26/18 09:11	E245.1	HGCV202-H_180328A	39	40905
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Nickel	0.00028	mg/L	J	0.002	0.00003	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Potassium	4	mg/L		1	0.05	E200.7	03/26/18 17:03 / sld			ICP2-HE_180326A	132	R133366

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18030366-002
Collection Date: 03/22/18 15:30
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00009	mg/L	J	0.001	0.00003	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Silver	0.000011	mg/L	J	0.0002	8E-06	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Sodium	15	mg/L		1	0.02	E200.7	03/26/18 17:03 / sld			ICP2-HE_180326A	132	R133366
Uranium	0.0038	mg/L		0.0002	3E-06	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Vanadium	0.0022	mg/L	J	0.1	0.00007	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
Zinc	0.023	mg/L		0.008	0.0001	E200.8	03/26/18 21:14 / sld			ICPMS205-H_180326C	117	R133370
METALS, TOTAL RECOVERABLE												
Aluminum	0.530	mg/L		0.009	0.003	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Antimony	0.00040	mg/L	J	0.0005	0.00002	E200.8	04/02/18 20:27 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180402B	102	40906
Arsenic	0.009	mg/L		0.001	0.00002	E200.8	03/27/18 14:19 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180327A	75	40906
Barium	0.053	mg/L		0.003	0.00006	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Boron	0.037	mg/L	J	0.1	0.002	E200.7	03/27/18 16:53 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	118	40906
Cadmium	0.00021	mg/L		0.00003	0.00002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Calcium	35	mg/L		1	0.01	E200.7	03/27/18 16:53 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	118	40906
Chromium	0.0008	mg/L	J	0.01	0.0002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Cobalt	0.00032	mg/L	J	0.01	0.00002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Copper	0.018	mg/L		0.001	0.0003	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Iron	0.93	mg/L		0.02	0.02	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Lead	0.0164	mg/L		0.0003	0.00003	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Magnesium	10	mg/L		1	0.09	E200.7	03/27/18 16:53 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	118	40906
Manganese	0.156	mg/L		0.001	0.0002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Mercury	0.0000366	mg/L		5E-06	1E-06	E245.1	03/29/18 11:07 / PN	03/26/18 09:11	E245.1	HGCV202-H_180328A	40	40905
Molybdenum	0.005	mg/L		0.005	0.00003	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Nickel	ND	mg/L		0.002	0.002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Potassium	5	mg/L		1	0.05	E200.7	03/27/18 16:53 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	118	40906
Selenium	0.00014	mg/L	J	0.001	0.00002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Silver	0.0002	mg/L		0.0002	8E-06	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Sodium	16	mg/L		1	0.02	E200.7	03/27/18 16:53 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	118	40906
Uranium	0.0040	mg/L		0.0002	8E-06	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Vanadium	0.0037	mg/L	J	0.1	0.00003	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906
Zinc	0.068	mg/L		0.008	0.002	E200.8	03/26/18 21:16 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	118	40906

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18030366-003
Collection Date: 03/22/18 13:15
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	8	mg/L		1	0.3	A2540 D	03/26/18 14:31 / km			124 (14410200)_180326A	59	TSS180326A
INORGANICS												
Alkalinity, Total as CaCO3	93	mg/L		4	0.7	A2320 B	03/27/18 10:52 / km			PHSC_101-H_180327A	49	R133372
Bicarbonate as HCO3	110	mg/L		4	0.7	A2320 B	03/27/18 10:52 / km			PHSC_101-H_180327A	49	R133372
Chloride	0.88	mg/L	J	1	0.003	E300.0	03/27/18 01:32 / SR			IC METROHM_180326A	57	R133379
Sulfate	26	mg/L		1	0.01	E300.0	03/27/18 01:32 / SR			IC METROHM_180326A	57	R133379
Hardness as CaCO3	110	mg/L		1	1	A2340 B	03/27/18 18:16 / sld			WATERCALC_180327D	5	R133391
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	03/26/18 14:41 / cm			FIA203-HE_180326B	43	R133359
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.02	0.007	E353.2	03/26/18 11:06 / cm			FIA203-HE_180326A	110	R133339
Nitrogen, Total	0.18	mg/L		0.05	0.01	A4500 N-C	03/30/18 09:34 / cm	03/29/18 14:48	A4500 N-	FIA203-HE_180330A	24	40964
Phosphorus, Total as P	0.040	mg/L		0.003	0.0006	E365.1	03/27/18 14:34 / cm	03/27/18 12:44	E365.1	FIA202-HE_180327A	82	40928
METALS, DISSOLVED												
Aluminum	0.0017	mg/L	J	0.009	0.0007	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Antimony	0.00006	mg/L	J	0.0005	0.00002	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Arsenic	0.003	mg/L		0.001	0.00002	E200.8	03/27/18 14:43 / sld			ICPMS205-H_180327A	85	R133388
Barium	0.023	mg/L		0.003	0.00002	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Beryllium	ND	mg/L		0.0008	0.00008	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Boron	0.005	mg/L	J	0.1	0.003	E200.7	03/26/18 17:07 / sld			ICP2-HE_180326A	133	R133366
Cadmium	ND	mg/L		0.00003	0.00002	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Calcium	33	mg/L		1	0.01	E200.7	03/26/18 17:07 / sld			ICP2-HE_180326A	133	R133366
Chromium	0.00006	mg/L	J	0.01	0.00003	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Cobalt	0.0012	mg/L	J	0.01	0.00002	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Copper	0.00049	mg/L	J	0.001	0.00004	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Iron	0.015	mg/L	J	0.02	0.002	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Lead	ND	mg/L		0.0003	0.00001	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Magnesium	6	mg/L		1	0.05	E200.7	03/26/18 17:07 / sld			ICP2-HE_180326A	133	R133366
Manganese	0.001	mg/L		0.001	0.00003	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Mercury	ND	mg/L		5E-06	1E-06	E245.1	03/29/18 11:16 / PN	03/26/18 09:11	E245.1	HGCV202-H_180328A	43	40905
Molybdenum	0.00033	mg/L	J	0.005	0.00002	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Nickel	0.00006	mg/L	J	0.002	0.00003	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Potassium	2	mg/L		1	0.05	E200.7	03/26/18 17:07 / sld			ICP2-HE_180326A	133	R133366

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18030366-003
Collection Date: 03/22/18 13:15
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00059	mg/L	J	0.001	0.00003	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Silver	ND	mg/L		0.0002	8E-06	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Sodium	5	mg/L		1	0.02	E200.7	03/26/18 17:07 / sld			ICP2-HE_180326A	133	R133366
Uranium	0.0009	mg/L		0.0002	3E-06	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Vanadium	0.00095	mg/L	J	0.1	0.00007	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
Zinc	0.0037	mg/L	J	0.008	0.0001	E200.8	03/26/18 21:18 / sld			ICPMS205-H_180326C	119	R133370
METALS, TOTAL RECOVERABLE												
Aluminum	0.211	mg/L		0.009	0.003	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Antimony	0.00020	mg/L	J	0.0005	0.00002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Arsenic	0.003	mg/L		0.001	0.00002	E200.8	03/27/18 14:45 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180327A	86	40906
Barium	0.024	mg/L		0.003	0.00006	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Beryllium	ND	mg/L		0.0008	0.0003	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Boron	ND	mg/L		0.1	0.002	E200.7	03/27/18 16:57 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	119	40906
Cadmium	ND	mg/L		0.00003	0.00002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Calcium	34	mg/L		1	0.01	E200.7	03/27/18 16:57 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	119	40906
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Cobalt	0.0013	mg/L	J	0.01	0.00002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Copper	0.001	mg/L		0.001	0.0003	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Iron	0.19	mg/L		0.02	0.02	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Lead	0.00027	mg/L	J	0.0003	0.00003	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Magnesium	6	mg/L		1	0.09	E200.7	03/27/18 16:57 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	119	40906
Manganese	0.012	mg/L		0.001	0.0002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Mercury	2.3E-06	mg/L	J	5E-06	1E-06	E245.1	03/29/18 11:19 / PN	03/26/18 09:11	E245.1	HGCV202-H_180328A	44	40905
Molybdenum	0.00035	mg/L	J	0.005	0.00003	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Nickel	ND	mg/L		0.002	0.002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Potassium	2	mg/L		1	0.05	E200.7	03/27/18 16:57 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	119	40906
Selenium	0.00063	mg/L	J	0.001	0.00002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Silver	0.000020	mg/L	J	0.0002	8E-06	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Sodium	5	mg/L		1	0.02	E200.7	03/27/18 16:57 / sld	03/26/18 07:53	E200.2	ICP2-HE_180327A	119	40906
Uranium	0.0010	mg/L		0.0002	8E-06	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Vanadium	0.0015	mg/L	J	0.1	0.00003	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906
Zinc	0.002	mg/L	J	0.008	0.002	E200.8	03/26/18 21:20 / sld	03/26/18 07:53	E200.2	ICPMS205-H_180326C	120	40906

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-04 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-004
Collection Date: 03/22/18 16:30
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	56.7	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	: 20	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Passed	9.2	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 46	R133713
3050 EXTRACTABLE METALS												
Arsenic	113	mg/kg-dry		5	1	SW6020	04/12/18 01:17 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180411C	: 135	41034
Cadmium	6.5	mg/kg-dry		0.2	0.1	SW6020	04/12/18 01:17 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180411C	: 135	41034
Copper	734	mg/kg-dry		5	4	SW6010B	04/06/18 20:45 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	: 123	41034
Lead	244	mg/kg-dry		5	0.2	SW6020	04/12/18 01:17 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180411C	: 135	41034
Zinc	1750	mg/kg-dry		5	1	SW6010B	04/06/18 20:45 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	: 123	41034

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SLAG-01 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-005
Collection Date: 03/22/18 15:45
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.9	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	: 21	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.6	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	: 47	R133713
3050 EXTRACTABLE METALS												
Arsenic	204	mg/kg-dry		5	1	SW6020	04/10/18 19:05 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	: 136	41034
Cadmium	19.9	mg/kg-dry		0.2	0.1	SW6020	04/10/18 19:05 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	: 136	41034
Copper	1580	mg/kg-dry		5	4	SW6010B	04/06/18 21:10 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	: 130	41034
Lead	644	mg/kg-dry		10	10	SW6010B	04/06/18 21:10 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	: 130	41034
Zinc	3100	mg/kg-dry		5	1	SW6010B	04/06/18 21:10 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	: 130	41034

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-006
Collection Date: 03/22/18 16:45
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	60.4	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	22	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.5	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	48	R133713
3050 EXTRACTABLE METALS												
Aluminum	23800	mg/kg-dry		10	10	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
Antimony	1.1	mg/kg-dry	J	5	0.2	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Arsenic	42	mg/kg-dry		5	1	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Barium	318	mg/kg-dry		5	0.8	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
Beryllium	0.6	mg/kg-dry	J	5	0.4	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Boron	10	mg/kg-dry		5	3	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
Cadmium	1.9	mg/kg-dry		0.2	0.1	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Chromium	59	mg/kg-dry		5	1	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Cobalt	11	mg/kg-dry		5	0.1	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Copper	343	mg/kg-dry		5	4	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
Iron	36400	mg/kg-dry	D	100	100	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
Lead	150	mg/kg-dry		5	0.2	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Manganese	1260	mg/kg-dry		5	1	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
Molybdenum	17	mg/kg-dry		5	0.2	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Nickel	27	mg/kg-dry		5	0.3	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Selenium	1.5	mg/kg-dry	J	5	0.5	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Silver	1	mg/kg-dry	J	5	1	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Uranium	9	mg/kg-dry		5	0.2	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Vanadium	106	mg/kg-dry		1	0.4	SW6020	04/10/18 19:07 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	137	41034
Zinc	441	mg/kg-dry		5	1	SW6010B	04/06/18 21:14 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	131	41034
METALS, TOTAL												
Mercury	0.44	mg/kg-dry		0.10	0.00024	SW7471B	04/10/18 11:38 / rgk	04/09/18 08:44	SW7471B	HGCV201-H_180410A	20	41079

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve 0.065-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-007
Collection Date: 03/22/18 16:45
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.9	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	23	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	51.6	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	49	R133713
3050 EXTRACTABLE METALS												
Aluminum	3930	mg/kg-dry		6	6	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
Antimony	0.14	mg/kg-dry	J	5	0.08	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Arsenic	4.1	mg/kg-dry	J	5	0.6	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Barium	50	mg/kg-dry		5	0.4	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
Cadmium	0.15	mg/kg-dry	J	0.2	0.06	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Chromium	10	mg/kg-dry		5	0.6	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Cobalt	2.4	mg/kg-dry	J	5	0.07	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Copper	28	mg/kg-dry		5	2	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
Iron	11800	mg/kg-dry	D	50	50	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
Lead	9	mg/kg-dry		5	0.08	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Manganese	157	mg/kg-dry		5	0.5	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
Molybdenum	0.9	mg/kg-dry	J	5	0.1	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Nickel	3.3	mg/kg-dry	J	5	0.1	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Uranium	1.8	mg/kg-dry	J	5	0.09	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Vanadium	31	mg/kg-dry		1	0.2	SW6020	04/10/18 19:10 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	138	41034
Zinc	106	mg/kg-dry		5	0.6	SW6010B	04/06/18 21:18 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	132	41034
METALS, TOTAL												
Mercury	0.008	mg/kg-dry	J	0.10	0.00012	SW7471B	04/05/18 15:27 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	81	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve 1-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-008
Collection Date: 03/22/18 16:45
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.1	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	24	R133670
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	20.7	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	50	R133713
3050 EXTRACTABLE METALS												
Aluminum	2810	mg/kg-dry		5	5	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
Antimony	0.52	mg/kg-dry	J	5	0.08	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Arsenic	5	mg/kg-dry		5	0.5	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Barium	43	mg/kg-dry		5	0.4	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
Cadmium	0.08	mg/kg-dry	J	0.2	0.06	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Chromium	5	mg/kg-dry		5	0.5	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Cobalt	1.5	mg/kg-dry	J	5	0.06	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Copper	12	mg/kg-dry		5	2	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
Iron	5440	mg/kg-dry	D	40	40	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
Lead	4.4	mg/kg-dry	J	5	0.08	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Manganese	171	mg/kg-dry		5	0.5	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
Molybdenum	0.4	mg/kg-dry	J	5	0.1	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Nickel	2.6	mg/kg-dry	J	5	0.1	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Selenium	ND	mg/kg-dry		5	0.2	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Uranium	1.0	mg/kg-dry	J	5	0.08	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Vanadium	12	mg/kg-dry		1	0.2	SW6020	04/11/18 22:31 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	56	41035
Zinc	39	mg/kg-dry		5	0.6	SW6010B	04/06/18 22:06 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	145	41035
METALS, TOTAL												
Mercury	0.003	mg/kg-dry	J	0.10	0.00012	SW7471B	04/06/18 15:16 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	30	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-009
Collection Date: 03/22/18 15:30
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	57.9	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	25	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.3	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	51	R133713
3050 EXTRACTABLE METALS												
Aluminum	17900	mg/kg-dry		10	10	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
Antimony	2.6	mg/kg-dry	J	5	0.2	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Arsenic	267	mg/kg-dry		5	1	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Barium	336	mg/kg-dry		5	0.7	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
Beryllium	0.8	mg/kg-dry	J	5	0.4	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Boron	9	mg/kg-dry		5	2	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
Cadmium	11.7	mg/kg-dry		0.2	0.1	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Chromium	57	mg/kg-dry		5	1	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Cobalt	12	mg/kg-dry		5	0.1	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Copper	3330	mg/kg-dry		5	4	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
Iron	43300	mg/kg-dry	D	90	90	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
Lead	659	mg/kg-dry		5	0.2	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Manganese	2060	mg/kg-dry		5	0.9	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
Molybdenum	13	mg/kg-dry		5	0.2	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Nickel	24	mg/kg-dry		5	0.3	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Selenium	2.0	mg/kg-dry	J	5	0.5	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Silver	10	mg/kg-dry		5	1	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Uranium	10	mg/kg-dry		5	0.2	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Vanadium	86	mg/kg-dry		1	0.4	SW6020	04/10/18 19:12 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	139	41034
Zinc	2220	mg/kg-dry		5	1	SW6010B	04/06/18 21:22 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	133	41034
METALS, TOTAL												
Mercury	0.83	mg/kg-dry		0.10	0.00024	SW7471B	04/10/18 11:40 / rgk	04/09/18 08:44	SW7471B	HGCV201-H_180410A	21	41079

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve 0.065-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-010
Collection Date: 03/22/18 15:30
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.2	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	26	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	33.2	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	52	R133713
3050 EXTRACTABLE METALS												
Aluminum	3630	mg/kg-dry		5	5	SW6010B	04/09/18 16:11 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	50	41056
Antimony	2.1	mg/kg-dry	J	5	0.07	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Arsenic	82	mg/kg-dry		5	0.5	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Barium	60	mg/kg-dry		5	0.3	SW6010B	04/09/18 16:11 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	50	41056
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Boron	1	mg/kg-dry	J	5	1	SW6010B	04/09/18 16:11 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	50	41056
Cadmium	2.1	mg/kg-dry		0.2	0.06	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Chromium	28	mg/kg-dry		5	0.5	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Cobalt	16	mg/kg-dry		5	0.06	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Copper	744	mg/kg-dry		5	2	SW6010B	04/09/18 16:11 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	50	41056
Iron	90400	mg/kg-dry	D	200	200	SW6010B	04/16/18 10:54 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180416A	29	41056
Lead	149	mg/kg-dry		5	0.07	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Manganese	972	mg/kg-dry		5	0.5	SW6010B	04/09/18 16:11 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	50	41056
Molybdenum	2.1	mg/kg-dry	J	5	0.1	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Nickel	12	mg/kg-dry		5	0.1	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Selenium	2.0	mg/kg-dry	J	5	0.2	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Silver	3.1	mg/kg-dry	J	5	0.5	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Uranium	4.9	mg/kg-dry	J	5	0.08	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Vanadium	109	mg/kg-dry		1	0.2	SW6020	04/10/18 19:37 / sld	04/06/18 09:53	SW3050 B	ICPMS205-H_180410B	151	41056
Zinc	1080	mg/kg-dry		5	0.6	SW6010B	04/09/18 16:11 / sld	04/06/18 09:53	SW3050 B	ICP2-HE_180409B	50	41056
METALS, TOTAL												
Mercury	0.12	mg/kg-dry		0.10	0.00012	SW7471B	04/05/18 15:29 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	82	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve 1-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-011
Collection Date: 03/22/18 15:30
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.3	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	27	R133670
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	17.8	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	53	R133713
3050 EXTRACTABLE METALS												
Aluminum	3910	mg/kg-dry		5	5	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
Antimony	3.5	mg/kg-dry	J	5	0.07	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Arsenic	154	mg/kg-dry		5	0.5	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Barium	64	mg/kg-dry		5	0.4	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
Beryllium	0.2	mg/kg-dry	J	5	0.2	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Boron	2	mg/kg-dry	J	5	1	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
Cadmium	1.2	mg/kg-dry		0.2	0.06	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Chromium	8	mg/kg-dry		5	0.5	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Cobalt	2.7	mg/kg-dry	J	5	0.06	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Copper	835	mg/kg-dry		5	2	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
Iron	12600	mg/kg-dry	D	40	40	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
Lead	501	mg/kg-dry		5	0.08	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Manganese	1220	mg/kg-dry		5	0.5	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
Molybdenum	2.0	mg/kg-dry	J	5	0.1	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Nickel	2.6	mg/kg-dry	J	5	0.1	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Selenium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Silver	1.8	mg/kg-dry	J	5	0.5	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Uranium	2.6	mg/kg-dry	J	5	0.08	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Vanadium	18	mg/kg-dry		1	0.2	SW6020	04/11/18 22:33 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	57	41035
Zinc	541	mg/kg-dry		5	0.6	SW6010B	04/06/18 22:10 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	146	41035
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.00012	SW7471B	04/06/18 15:21 / rgk	04/04/18 09:14	SW7471B	HGCV201-H_180406B	31	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve <0.065mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-012
Collection Date: 03/22/18 13:15
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	61.1	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	29	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Passed	0.6	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	54	R133713
3050 EXTRACTABLE METALS												
Aluminum	28400	mg/kg-dry		10	10	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
Antimony	0.3	mg/kg-dry	J	5	0.2	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Arsenic	46	mg/kg-dry		5	1	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Barium	341	mg/kg-dry		5	0.8	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
Beryllium	1.3	mg/kg-dry	J	5	0.4	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Boron	10	mg/kg-dry		5	3	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
Cadmium	1.5	mg/kg-dry		0.2	0.1	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Chromium	108	mg/kg-dry		5	1	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Cobalt	12	mg/kg-dry		5	0.1	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Copper	84	mg/kg-dry		5	4	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
Iron	26100	mg/kg-dry	D	100	100	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
Lead	168	mg/kg-dry		5	0.2	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Manganese	785	mg/kg-dry		5	1	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
Molybdenum	2.7	mg/kg-dry	J	5	0.2	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Nickel	58	mg/kg-dry		5	0.3	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Selenium	2.9	mg/kg-dry	J	5	0.5	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Silver	ND	mg/kg-dry		5	1	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Uranium	2.9	mg/kg-dry	J	5	0.2	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Vanadium	56	mg/kg-dry		1	0.4	SW6020	04/10/18 19:14 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	140	41034
Zinc	131	mg/kg-dry		5	1	SW6010B	04/06/18 21:25 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	134	41034
METALS, TOTAL												
Mercury	0.14	mg/kg-dry		0.10	0.00046	SW7471B	04/10/18 11:42 / rgk	04/09/18 08:44	SW7471B	HGCV201-H_180410A	22	41079

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve 0.065-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-013
Collection Date: 03/22/18 13:15
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.8	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	30	R133670
SIEVE ANALYSIS												
No. 230 (63 um), Retained	38.6	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	55	R133713
3050 EXTRACTABLE METALS												
Aluminum	8000	mg/kg-dry		6	6	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
Antimony	0.10	mg/kg-dry	J	5	0.08	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Arsenic	15	mg/kg-dry		5	0.6	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Barium	112	mg/kg-dry		5	0.4	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
Beryllium	ND	mg/kg-dry		5	0.2	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
Cadmium	0.08	mg/kg-dry	J	0.2	0.06	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Chromium	11	mg/kg-dry		5	0.6	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Cobalt	3.6	mg/kg-dry	J	5	0.07	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Copper	17	mg/kg-dry		5	2	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
Iron	11400	mg/kg-dry	D	50	50	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
Lead	5	mg/kg-dry		5	0.09	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Manganese	127	mg/kg-dry		5	0.5	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
Molybdenum	ND	mg/kg-dry		5	0.1	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Nickel	7	mg/kg-dry		5	0.1	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Selenium	ND	mg/kg-dry		5	0.3	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Uranium	0.60	mg/kg-dry	J	5	0.09	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Vanadium	25	mg/kg-dry		1	0.2	SW6020	04/10/18 19:16 / sld	04/05/18 08:50	SW3050 B	ICPMS205-H_180410B	141	41034
Zinc	35	mg/kg-dry		5	0.6	SW6010B	04/06/18 21:29 / sld	04/05/18 08:50	SW3050 B	ICP2-HE_180406B	135	41034
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.00013	SW7471B	04/05/18 16:37 / rgk	04/04/18 09:02	SW7471B	HGCV201-H_180405A	102	41013

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve 1-2mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18030366-014
Collection Date: 03/22/18 13:15
DateReceived: 03/23/18
Report Date: 04/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.8	wt%		0.2	0.02	D2974	04/06/18 09:21 / rgk			RYING OVEN 2_180406A	31	R133670
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	36.3	wt%-wet		0.1		SSSA 15-2	04/09/18 09:50 / swj			MISC SOILS_180409A	56	R133713
3050 EXTRACTABLE METALS												
Aluminum	7470	mg/kg-dry		5	5	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
Antimony	0.88	mg/kg-dry	J	5	0.08	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Arsenic	33	mg/kg-dry		5	0.5	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Barium	134	mg/kg-dry		5	0.4	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
Beryllium	0.3	mg/kg-dry	J	5	0.2	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Boron	ND	mg/kg-dry		5	1	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
Cadmium	0.2	mg/kg-dry		0.2	0.06	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Chromium	11	mg/kg-dry		5	0.5	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Cobalt	3.7	mg/kg-dry	J	5	0.06	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Copper	39	mg/kg-dry		5	2	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
Iron	13100	mg/kg-dry	D	40	40	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
Lead	18	mg/kg-dry		5	0.08	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Manganese	135	mg/kg-dry		5	0.5	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
Molybdenum	0.1	mg/kg-dry	J	5	0.1	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Nickel	8	mg/kg-dry		5	0.1	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Selenium	0.6	mg/kg-dry	J	5	0.2	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Silver	ND	mg/kg-dry		5	0.5	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Uranium	0.83	mg/kg-dry	J	5	0.08	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Vanadium	20	mg/kg-dry		1	0.2	SW6020	04/11/18 22:35 / sld	04/05/18 08:51	SW3050 B	ICPMS205-H_180411C	58	41035
Zinc	58	mg/kg-dry		5	0.6	SW6010B	04/06/18 22:14 / sld	04/05/18 08:51	SW3050 B	ICP2-HE_180406B	147	41035
METALS, TOTAL												
Mercury	0.005	mg/kg-dry	J	0.10	0.00012	SW7471B	04/06/18 15:23 / rgk	04/05/18 14:58	SW7471B	HGCV201-H_180406B	32	41016

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 180329wa-hg202

Run ID :Run Order: **HGCV202-H_180328A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **03/29/18 09:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.41E-05	0.00010	0.0001	0	**94**	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **HGCV202-H_180328A: 35** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **03/29/18 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000107	0.00010	0.0001	0	**107**	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 180405SA-HG201

Run ID :Run Order: **HGCV201-H_180405A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/05/18 11:46** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	**101**	90	110				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 77** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 15:19** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**104**	90	110				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 96** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/05/18 16:25** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**103**	90	110				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 180406SA-HG201

Run ID :Run Order: **HGCV201-H_180406B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/06/18 14:11** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	**103**	90	110				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **HGCV201-H_180406B: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/06/18 15:02** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**102**	90	110				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 180410SA-HG201MDL

Run ID :Run Order: **HGCV201-H_180410A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **04/10/18 11:00** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	**102**	90	110				

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Run ID :Run Order: **HGCV201-H_180410A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **04/10/18 11:02** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**100**	90	110				

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40905

Run ID :Run Order: **HGCV202-H_180328A: 11** SampType: **Method Blank** Lab ID: **MB-40905** Method: **E245.1**
Analysis Date: **03/29/18 09:36** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **HGCV202-H_180328A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-40905** Method: **E245.1**
Analysis Date: **03/29/18 09:39** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.34E-05	0.00010	0.000075	0	**98**	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **HGCV202-H_180328A: 31** SampType: **Sample Matrix Spike** Lab ID: **H18030365-016CMS** Method: **E245.1**
Analysis Date: **03/29/18 10:38** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000108	0.00010	0.000075	0.00003655	**95**	70	130				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **HGCV202-H_180328A: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-016CMSD** Method: **E245.1**
Analysis Date: **03/29/18 10:41** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000112	0.00010	0.000075	0.00003655	**100**	70	130	0.0001076	**3.6**	20	

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICP2-HE_180327A: 99** SampType: **Method Blank** Lab ID: **MB-40906** Method: **E200.7**

Analysis Date: **03/27/18 15:42** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Boron	ND	0.002									
Calcium	0.2	0.01									
Magnesium	0.02	0.009									
Potassium	ND	0.05									
Sodium	ND	0.02									

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 100** SampType: **Laboratory Control Sample** Lab ID: **LCS-40906** Method: **E200.7**

Analysis Date: **03/27/18 15:46** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.67	0.030	2.5	0	107	85	115				
Boron	0.504	0.050	0.5	0	101	85	115				
Calcium	26.1	1.0	25	0.1737	104	85	115				
Magnesium	25.8	1.0	25	0.01647	103	85	115				
Potassium	25.3	1.0	25	0	101	85	115				
Sodium	25.3	1.0	25	0	101	85	115				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 112** SampType: **Serial Dilution** Lab ID: **H18030366-001CDIL** Method: **E200.7**

Analysis Date: **03/27/18 16:31** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.12	0.030		0		0	0	2.908	7.1	10	
Boron	ND	0.050		0		0	0	0.01986		10	
Calcium	18.7	1.0		0		0	0	19.77	5.3	10	
Magnesium	6.32	1.0		0		0	0	6.227	1.5	10	
Potassium	5.00	1.0		0		0	0	5.818	15	10	R
Sodium	7.86	1.0		0		0	0	8.698	10	10	R

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICP2-HE_180327A: 114** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001CMS3** Method: **E200.7**

Analysis Date: **03/27/18 16:39** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7.02	0.030	2.5	2.908	165	70	130				S
Boron	0.507	0.050	0.5	0.01986	98	70	130				
Calcium	44.3	1.0	25	19.77	98	70	130				
Magnesium	30.7	1.0	25	6.227	98	70	130				
Potassium	31.7	1.0	25	5.818	103	70	130				
Sodium	34.5	1.0	25	8.698	103	70	130				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 115** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-001CMSD3** Method: **E200.7**

Analysis Date: **03/27/18 16:42** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.86	0.030	2.5	2.908	158	70	130	7.024	2.3	20	S
Boron	0.508	0.050	0.5	0.01986	98	70	130	0.5074	0.1	20	
Calcium	43.5	1.0	25	19.77	95	70	130	44.25	1.8	20	
Magnesium	30.3	1.0	25	6.227	96	70	130	30.68	1.2	20	
Potassium	31.3	1.0	25	5.818	102	70	130	31.68	1.1	20	
Sodium	34.2	1.0	25	8.698	102	70	130	34.51	0.9	20	

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180329A: 52** SampType: **Serial Dilution** Lab ID: **H18030350-001CDIL** Method: **E200.7**

Analysis Date: **03/29/18 11:00** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0562	0.030		0		0	0	0.05464		10	N
Boron	0.0178	0.050		0		0	0	0.00604		10	N
Calcium	45.1	1.0		0		0	0	45.95	1.8	10	
Magnesium	11.5	1.0		0		0	0	11.69	1.8	10	
Potassium	1.05	1.0		0		0	0	1.127		10	N
Sodium	2.27	1.0		0		0	0	2.23	2.0	10	

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICP2-HE_180329A: 56** SampType: **Sample Matrix Spike** Lab ID: **H18030350-001CMS3** Method: **E200.7**

Analysis Date: **03/29/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.030	2.5	0.05464	99	70	130				
Boron	0.529	0.050	0.5	0.00604	105	70	130				
Calcium	71.2	1.0	25	45.95	101	70	130				
Magnesium	37.2	1.0	25	11.69	102	70	130				
Potassium	27.3	1.0	25	1.127	105	70	130				
Sodium	28.3	1.0	25	2.23	104	70	130				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180329A: 57** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030350-001CMSD3** Method: **E200.7**

Analysis Date: **03/29/18 11:17** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.59	0.030	2.5	0.05464	101	70	130	2.537	2.1	20	
Boron	0.547	0.050	0.5	0.00604	108	70	130	0.5288	3.5	20	
Calcium	72.3	1.0	25	45.95	105	70	130	71.16	1.6	20	
Magnesium	37.8	1.0	25	11.69	104	70	130	37.17	1.7	20	
Potassium	26.9	1.0	25	1.127	103	70	130	27.26	1.5	20	
Sodium	27.9	1.0	25	2.23	103	70	130	28.33	1.6	20	

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180326C: 75** SampType: **Method Blank** Lab ID: **MB-40906** Method: **E200.8**

Analysis Date: **03/26/18 19:40** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	2E-05									
Arsenic	ND	2E-05									
Barium	ND	6E-05									
Beryllium	ND	0.0003									
Cadmium	ND	2E-05									
Chromium	ND	0.0002									
Cobalt	ND	2E-05									
Copper	ND	0.0003									
Iron	ND	0.02									
Lead	ND	3E-05									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	0.002									
Selenium	ND	2E-05									
Silver	0.0002	8E-06									
Uranium	ND	8E-06									
Vanadium	ND	3E-05									
Zinc	ND	0.002									

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 81** SampType: **Laboratory Control Sample** Lab ID: **LCS-40906** Method: **E200.8**

Analysis Date: **03/26/18 19:53** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.030	2.5	0	**101**	85	115				
Antimony	0.552	0.0010	0.5	0	**110**	85	115				
Arsenic	0.575	0.0010	0.5	0	**115**	85	115				
Barium	0.513	0.050	0.5	0	**103**	85	115				
Beryllium	0.260	0.0010	0.25	0	**104**	85	115				
Cadmium	0.255	0.0010	0.25	0	**102**	85	115				
Chromium	0.498	0.0050	0.5	0	**100**	85	115				
Cobalt	0.482	0.0050	0.5	0	**96**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180326C: 81** SampType: **Laboratory Control Sample** Lab ID: **LCS-40906** Method: **E200.8**

Analysis Date: **03/26/18 19:53** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.475	0.0050	0.5	0	95	85	115				
Iron	2.48	0.020	2.5	0	99	85	115				
Lead	0.504	0.0010	0.5	0	101	85	115				
Manganese	2.52	0.0010	2.5	0	101	85	115				
Molybdenum	0.511	0.0010	0.5	0	102	85	115				
Nickel	0.477	0.0050	0.5	0	95	85	115				
Selenium	0.503	0.0010	0.5	0	101	85	115				
Silver	0.0495	0.0010	0.05	0.0001816	99	85	115				
Uranium	0.500	0.00030	0.5	0	100	85	115				
Vanadium	0.505	0.010	0.5	0	101	85	115				
Zinc	0.522	0.010	0.5	0	104	85	115				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 121** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001CMS3** Method: **E200.8**

Analysis Date: **03/26/18 21:22** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.68	0.030	2.5	2.793	155	70	130				S
Antimony	0.573	0.0010	0.5	0.0007329	114	70	130				
Arsenic	0.620	0.0010	0.5	0.01448	121	70	130				
Barium	0.595	0.050	0.5	0.06864	105	70	130				
Beryllium	0.274	0.0010	0.25	0	109	70	130				
Cadmium	0.260	0.0010	0.25	0.0002263	104	70	130				
Chromium	0.498	0.0050	0.5	0.003459	99	70	130				
Cobalt	0.478	0.0050	0.5	0.001385	95	70	130				
Copper	0.506	0.0050	0.5	0.03802	93	70	130				
Iron	7.04	0.020	2.5	4.121	117	70	130				
Lead	0.524	0.0010	0.5	0.0106	103	70	130				
Manganese	2.72	0.0010	2.5	0.2169	100	70	130				
Molybdenum	0.529	0.0010	0.5	0.003388	105	70	130				
Nickel	0.470	0.0050	0.5	0.002	94	70	130				
Selenium	0.514	0.0010	0.5	0.0001803	103	70	130				
Silver	0.0487	0.0010	0.05	0.0002434	97	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180326C: 121** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001CMS3** Method: **E200.8**

Analysis Date: **03/26/18 21:22** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.518	0.00030	0.5	0.002242	103	70	130				
Vanadium	0.520	0.010	0.5	0.01039	102	70	130				
Zinc	0.585	0.010	0.5	0.05499	106	70	130				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 122** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-001CMSD3** Method: **E200.8**

Analysis Date: **03/26/18 21:25** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.56	0.030	2.5	2.793	151	70	130	6.677	1.7	20	S
Antimony	0.552	0.0010	0.5	0.0007329	110	70	130	0.5727	3.7	20	
Arsenic	0.606	0.0010	0.5	0.01448	118	70	130	0.62	2.3	20	
Barium	0.586	0.050	0.5	0.06864	103	70	130	0.5947	1.5	20	
Beryllium	0.271	0.0010	0.25	0	108	70	130	0.2736	1.0	20	
Cadmium	0.255	0.0010	0.25	0.0002263	102	70	130	0.2601	2.0	20	
Chromium	0.491	0.0050	0.5	0.003459	98	70	130	0.498	1.3	20	
Cobalt	0.472	0.0050	0.5	0.001385	94	70	130	0.4779	1.3	20	
Copper	0.499	0.0050	0.5	0.03802	92	70	130	0.5055	1.3	20	
Iron	6.87	0.020	2.5	4.121	110	70	130	7.043	2.4	20	
Lead	0.519	0.0010	0.5	0.0106	102	70	130	0.524	0.9	20	
Manganese	2.69	0.0010	2.5	0.2169	99	70	130	2.725	1.2	20	
Molybdenum	0.513	0.0010	0.5	0.003388	102	70	130	0.5294	3.2	20	
Nickel	0.463	0.0050	0.5	0.002	92	70	130	0.4703	1.5	20	
Selenium	0.503	0.0010	0.5	0.0001803	101	70	130	0.5141	2.2	20	
Silver	0.0477	0.0010	0.05	0.0002434	95	70	130	0.04871	2.0	20	
Uranium	0.514	0.00030	0.5	0.002242	102	70	130	0.5185	0.9	20	
Vanadium	0.512	0.010	0.5	0.01039	100	70	130	0.5196	1.4	20	
Zinc	0.578	0.010	0.5	0.05499	105	70	130	0.5847	1.2	20	

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180327A: 44** SampType: **Method Blank** Lab ID: **MB-40906** Method: **E200.8**

Analysis Date: **03/27/18 13:10** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.003	0.003									
Antimony	ND	2E-05									
Arsenic	ND	2E-05									
Barium	ND	6E-05									
Beryllium	ND	0.0003									
Cadmium	ND	2E-05									
Chromium	ND	0.0002									
Cobalt	ND	2E-05									
Copper	ND	0.0003									
Iron	ND	0.02									
Lead	ND	3E-05									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	0.002									
Selenium	ND	2E-05									
Silver	8E-05	8E-06									
Uranium	ND	8E-06									
Vanadium	ND	3E-05									
Zinc	ND	0.002									

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 51** SampType: **Laboratory Control Sample** Lab ID: **LCS-40906** Method: **E200.8**

Analysis Date: **03/27/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.40	0.030	2.5	0.003411	**96**	85	115				
Antimony	0.542	0.0010	0.5	0	**108**	85	115				
Arsenic	0.526	0.0010	0.5	0	**105**	85	115				
Barium	0.517	0.050	0.5	0	**103**	85	115				
Beryllium	0.255	0.0010	0.25	0	**102**	85	115				
Cadmium	0.259	0.0010	0.25	0	**104**	85	115				
Chromium	0.498	0.0050	0.5	0	**100**	85	115				
Cobalt	0.495	0.0050	0.5	0	**99**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180327A: 51** SampType: **Laboratory Control Sample** Lab ID: **LCS-40906** Method: **E200.8**

Analysis Date: **03/27/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.480	0.0050	0.5	0	96	85	115				
Iron	2.39	0.020	2.5	0	95	85	115				
Lead	0.513	0.0010	0.5	0	103	85	115				
Manganese	2.43	0.0010	2.5	0	97	85	115				
Molybdenum	0.533	0.0010	0.5	0	107	85	115				
Nickel	0.483	0.0050	0.5	0	97	85	115				
Selenium	0.515	0.0010	0.5	0	103	85	115				
Silver	0.0509	0.0010	0.05	0.00007658	102	85	115				
Uranium	0.509	0.00030	0.5	0	102	85	115				
Vanadium	0.510	0.010	0.5	0	102	85	115				
Zinc	0.491	0.010	0.5	0	98	85	115				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 76** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001CMS3** Method: **E200.8**

Analysis Date: **03/27/18 14:21** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.26	0.030	2.5	2.679	143	70	130				S
Antimony	0.546	0.0010	0.5	0.000717	109	70	130				
Arsenic	0.549	0.0010	0.5	0.01331	107	70	130				
Barium	0.588	0.050	0.5	0.06983	104	70	130				
Beryllium	0.255	0.0010	0.25	0	102	70	130				
Cadmium	0.252	0.0010	0.25	0.0002211	101	70	130				
Chromium	0.504	0.0050	0.5	0.003454	100	70	130				
Cobalt	0.491	0.0050	0.5	0.001461	98	70	130				
Copper	0.509	0.0050	0.5	0.03908	94	70	130				
Iron	6.76	0.020	2.5	4.114	106	70	130				
Lead	0.521	0.0010	0.5	0.01075	102	70	130				
Manganese	2.64	0.0010	2.5	0.2154	97	70	130				
Molybdenum	0.528	0.0010	0.5	0.003507	105	70	130				
Nickel	0.477	0.0050	0.5	0.002099	95	70	130				
Selenium	0.536	0.0010	0.5	0.0001823	107	70	130				
Silver	0.0490	0.0010	0.05	0.0002472	98	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180327A: 76** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001CMS3** Method: **E200.8**

Analysis Date: **03/27/18 14:21** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.509	0.00030	0.5	0.002262	101	70	130				
Vanadium	0.530	0.010	0.5	0.01089	104	70	130				
Zinc	0.538	0.010	0.5	0.05256	97	70	130				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 77** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-001CMSD3** Method: **E200.8**

Analysis Date: **03/27/18 14:25** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.94	0.030	2.5	2.679	130	70	130	6.259	5.2	20	
Antimony	0.519	0.0010	0.5	0.000717	104	70	130	0.5458	5.0	20	
Arsenic	0.516	0.0010	0.5	0.01331	101	70	130	0.5488	6.1	20	
Barium	0.570	0.050	0.5	0.06983	100	70	130	0.588	3.2	20	
Beryllium	0.243	0.0010	0.25	0	97	70	130	0.2549	4.9	20	
Cadmium	0.247	0.0010	0.25	0.0002211	99	70	130	0.2517	1.8	20	
Chromium	0.483	0.0050	0.5	0.003454	96	70	130	0.5043	4.4	20	
Cobalt	0.478	0.0050	0.5	0.001461	95	70	130	0.4907	2.6	20	
Copper	0.499	0.0050	0.5	0.03908	92	70	130	0.5093	2.0	20	
Iron	6.55	0.020	2.5	4.114	97	70	130	6.763	3.2	20	
Lead	0.506	0.0010	0.5	0.01075	99	70	130	0.5206	2.8	20	
Manganese	2.56	0.0010	2.5	0.2154	94	70	130	2.641	2.9	20	
Molybdenum	0.515	0.0010	0.5	0.003507	102	70	130	0.5284	2.6	20	
Nickel	0.465	0.0050	0.5	0.002099	93	70	130	0.4767	2.4	20	
Selenium	0.491	0.0010	0.5	0.0001823	98	70	130	0.5358	8.8	20	
Silver	0.0484	0.0010	0.05	0.0002472	96	70	130	0.04902	1.3	20	
Uranium	0.498	0.00030	0.5	0.002262	99	70	130	0.5093	2.3	20	
Vanadium	0.506	0.010	0.5	0.01089	99	70	130	0.5305	4.7	20	
Zinc	0.521	0.010	0.5	0.05256	94	70	130	0.5377	3.2	20	

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40906

Run ID :Run Order: **ICPMS205-H_180402B: 99** SampType: **Method Blank** Lab ID: **MB-40906** Method: **E200.8**

Analysis Date: **04/02/18 20:20** Units: **mg/L** **Prep Info:** Prep Date: **3/26/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.003	0.003									
Antimony	ND	2E-05									
Arsenic	ND	2E-05									
Barium	ND	6E-05									
Beryllium	ND	0.0003									
Cadmium	ND	2E-05									
Chromium	ND	0.0002									
Cobalt	ND	2E-05									
Copper	ND	0.0003									
Iron	ND	0.02									
Lead	ND	3E-05									
Manganese	ND	0.0002									
Molybdenum	ND	3E-05									
Nickel	ND	0.002									
Selenium	ND	2E-05									
Silver	1E-05	8E-06									
Uranium	1E-05	8E-06									
Vanadium	ND	3E-05									
Zinc	ND	0.002									

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40928

Run ID :Run Order: **FIA202-HE_180327A: 72** SampType: **Laboratory Control Sample** Lab ID: **LCS-40928** Method: **E365.1**
Analysis Date: **03/27/18 14:24** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.405	0.010	0.4	0	101	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 73** SampType: **Method Blank** Lab ID: **MB-40928** Method: **E365.1**
Analysis Date: **03/27/18 14:25** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0006									

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 75** SampType: **Sample Matrix Spike** Lab ID: **H18030365-014DMS** Method: **E365.1**
Analysis Date: **03/27/18 14:27** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.467	0.010	0.2	0.2671	100	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 76** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-014DMSD** Method: **E365.1**
Analysis Date: **03/27/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: **3/27/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.452	0.010	0.2	0.2671	92	90	110	0.4666	3.2	20	

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40964

Run ID :Run Order: **FIA203-HE_180330A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-40964** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:18** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	14.8	0.30	14	0.04562	106	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **FIA203-HE_180330A: 16** SampType: **Sample Matrix Spike** Lab ID: **H18030365-012AMS** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:24** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.996	0.10	1	0	100	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **FIA203-HE_180330A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-012AMSD** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:25** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.01	0.10	1	0	101	90	110	0.9959	1.4	20	

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **FIA203-HE_180330A: 25** SampType: **Method Blank** Lab ID: **MB-40964** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:35** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.01	0.01									

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **FIA203-HE_180330A: 29** SampType: **Sample Matrix Spike** Lab ID: **H18030379-001BMS** Method: **A4500 N-C**
Analysis Date: **03/30/18 09:40** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.64	0.10	1	0.9478	69	90	110				S

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 40964

Run ID :Run Order: **FIA203-HE_180330A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030379-001BMSD** Method: **A4500 N-C**

Analysis Date: **03/30/18 09:41** Units: **mg/L** **Prep Info:** Prep Date: **3/29/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.77	0.10	1	0.9478	82	90	110	1.638	7.7	20	S

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41013

Run ID :Run Order: **HGCV201-H_180405A: 61** SampType: **Method Blank** Lab ID: **MB-41013** Method: **SW7471B**
Analysis Date: **04/05/18 14:42** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002	9E-05									

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 62** SampType: **Laboratory Control Sample** Lab ID: **LCS-41013** Method: **SW7471B**
Analysis Date: **04/05/18 14:44** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.4	0.50	5	0.001937	107	71	126.4				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 63** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41013** Method: **SW7471B**
Analysis Date: **04/05/18 14:46** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.196	0.001937	106	80	120				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 100** SampType: **Sample Matrix Spike** Lab ID: **H18030365-054AMS** Method: **SW7471B**
Analysis Date: **04/05/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.43	0.50	0.2628	0.1123	120	80	120				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-054AMSD** Method: **SW7471B**
Analysis Date: **04/05/18 16:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.35	0.50	0.2654	0.1123	91	80	120	0.4283		20	

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41013

Run ID :Run Order: **HGCV201-H_180405A: 104** SampType: **Sample Matrix Spike** Lab ID: **H18030366-013AMS** Method: **SW7471B**

Analysis Date: **04/05/18 16:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.28	0.50	0.2564	0.01097	**104**	80	120				

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Run ID :Run Order: **HGCV201-H_180405A: 105** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-013AMSD** Method: **SW7471B**

Analysis Date: **04/05/18 16:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.28	0.20	0.259	0.01097	**104**	80	120	0.2769	**1.5**	20	

Associated samples: **H18030366-007A, H18030366-010A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41016

Run ID :Run Order: **HGCV201-H_180406B: 10** SampType: **Method Blank** Lab ID: **MB-41016** Method: **SW7471B**
Analysis Date: **04/06/18 14:37** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0007	0.0001									

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **HGCV201-H_180406B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-41016** Method: **SW7471B**
Analysis Date: **04/06/18 14:38** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.4	0.50	5	0.00068	108	71	126.4				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **HGCV201-H_180406B: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41016** Method: **SW7471B**
Analysis Date: **04/06/18 14:40** Units: **mg/kg** **Prep Info:** Prep Date: **4/4/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0.00068	99	80	120				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **HGCV201-H_180406B: 35** SampType: **Sample Matrix Spike** Lab ID: **H18040062-001AMS** Method: **SW7471B**
Analysis Date: **04/06/18 15:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.30	0.50	0.2627	0.05949	93	80	120				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **HGCV201-H_180406B: 36** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18040062-001AMSD** Method: **SW7471B**
Analysis Date: **04/06/18 15:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.31	0.20	0.2601	0.05949	96	80	120	0.3027	2.3	20	

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICP2-HE_180406B: 120** SampType: **Method Blank** Lab ID: **MB-41034** Method: **SW6010B**

Analysis Date: **04/06/18 20:33** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	1.0									
Barium	ND	0.06									
Boron	ND	0.2									
Copper	ND	0.3									
Iron	ND	7									
Lead	ND	1									
Manganese	0.2	0.08									
Zinc	0.4	0.1									

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 121** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41034** Method: **SW6010B**

Analysis Date: **04/06/18 20:37** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	252	5.0	245.8	1.064	102	80	120				
Barium	50.4	1.0	49.15	0	103	80	120				
Boron	49.0	1.0	49.15	0	100	80	120				
Copper	50.2	1.0	49.15	0	102	80	120				
Iron	248	7.5	245.8	0	101	80	120				
Lead	46.5	1.0	49.15	0	95	80	120				
Manganese	244	1.0	245.8	0.2063	99	80	120				
Zinc	47.8	1.0	49.15	0.3797	97	80	120				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 122** SampType: **Laboratory Control Sample** Lab ID: **LCS-41034** Method: **SW6010B**

Analysis Date: **04/06/18 20:41** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8790	5.0	9830	1.064	89	46.3	130.2				
Barium	160	1.0	187	0	86	78.6	112.8				
Boron	103	1.0	129	0	80	59.5	106.2				
Copper	123	1.7	137	0	90	76.6	108.8				
Iron	13400	38	16300	0	82	51.7	131.9				
Lead	94.0	5.2	105	0	89	74.4	108.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICP2-HE_180406B: 122** SampType: **Laboratory Control Sample** Lab ID: **LCS-41034** Method: **SW6010B**

Analysis Date: **04/06/18 20:41** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	420	1.0	434	0.2063	**97**	81.1	116.6				
Zinc	221	1.0	231	0.3797	**96**	75.3	111.7				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 124** SampType: **Serial Dilution** Lab ID: **H18030366-004ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 20:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	17400	51		0		0	0	17120	**1.6**	10	
Barium	326	3.6		0		0	0	322.1	**1.2**	10	
Boron	ND	12		0		0	0	9.112		10	
Copper	750	20		0		0	0	734.3	**2.1**	10	
Iron	40000	430		0		0	0	38650	**3.4**	10	
Lead	296	59		0		0	0	236.4		10	N
Manganese	1010	4.6		0		0	0	976.6	**2.9**	10	
Zinc	1840	5.8		0		0	0	1753	**5.0**	10	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 125** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-004APDS** Method: **SW6010B**

Analysis Date: **04/06/18 20:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20500	11	2917	17120		75	125				A
Barium	895	1.0	583.4	322.1	**98**	75	125				
Boron	535	2.4	583.4	9.112	**90**	75	125				
Copper	1330	4.0	583.4	734.3	**101**	75	125				
Iron	42100	89	2917	38650		75	125				A
Lead	757	12	583.4	236.4	**89**	75	125				
Manganese	3780	1.0	2917	976.6	**96**	75	125				
Zinc	2250	1.2	583.4	1753	**85**	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICP2-HE_180406B: 126** SampType: **Sample Matrix Spike** Lab ID: **H18030366-004AMS** Method: **SW6010B**

Analysis Date: **04/06/18 20:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21800	10	559.5	17120		75	125				A
Barium	453	1.0	111.9	322.1	117	75	125				
Boron	111	2.3	111.9	9.112	91	75	125				
Copper	878	3.9	111.9	734.3		75	125				A
Iron	41000	85	559.5	38650		75	125				A
Lead	343	12	111.9	236.4	95	75	125				
Manganese	1600	1.0	559.5	976.6	111	75	125				
Zinc	1830	1.1	111.9	1753		75	125				A

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 129** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-004AMSD** Method: **SW6010B**

Analysis Date: **04/06/18 21:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21600	10	563.5	17120		75	125	21760	0.9	20	A
Barium	450	1.0	112.7	322.1	114	75	125	452.6	0.5	20	
Boron	113	2.4	112.7	9.112	93	75	125	111.5	1.8	20	
Copper	839	3.9	112.7	734.3		75	125	877.9	4.6	20	A
Iron	40300	86	563.5	38650		75	125	40950	1.5	20	A
Lead	354	12	112.7	236.4	105	75	125	342.7	3.4	20	
Manganese	1530	1.0	563.5	976.6	99	75	125	1595	3.9	20	
Zinc	1730	1.2	112.7	1753		75	125	1834	5.7	20	A

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 136** SampType: **Serial Dilution** Lab ID: **H18030366-013ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 21:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8030	29		0		0	0	8004	0.3	10	
Barium	112	2.0		0		0	0	112	0.2	10	
Boron	ND	6.6		0		0	0	0		10	
Copper	20.1	11		0		0	0	16.66		10	N
Iron	11500	240		0		0	0	11380	0.9	10	
Lead	ND	33		0		0	0	0		10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICP2-HE_180406B: 136** SampType: **Serial Dilution** Lab ID: **H18030366-013ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 21:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	128	2.6		0		0	0	127.5	**0.7**	10	
Zinc	38.3	3.2		0		0	0	34.89	**9.3**	10	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 137** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-013APDS** Method: **SW6010B**

Analysis Date: **04/06/18 21:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9850	5.9	1624	8004		75	125				A
Barium	429	1.0	324.8	112	**98**	75	125				
Boron	304	1.4	324.8	0	**94**	75	125				
Copper	329	2.3	324.8	16.66	**96**	75	125				
Iron	13000	49	1624	11380		75	125				A
Lead	303	6.8	324.8	0	**93**	75	125				
Manganese	1680	1.0	1624	127.5	**96**	75	125				
Zinc	333	1.0	324.8	34.89	**92**	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICP2-HE_180406B: 138** SampType: **Sample Matrix Spike** Lab ID: **H18030366-013AMS** Method: **SW6010B**

Analysis Date: **04/06/18 21:40** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9290	5.8	319.9	8004		75	125				A
Barium	182	1.0	63.97	112	**109**	75	125				
Boron	64.9	1.3	63.97	0	**101**	75	125				
Copper	80.0	2.2	63.97	16.66	**99**	75	125				
Iron	11700	49	319.9	11380		75	125				A
Lead	71.6	6.7	63.97	0	**112**	75	125				
Manganese	453	1.0	319.9	127.5	**102**	75	125				
Zinc	86.8	1.0	63.97	34.89	**81**	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICP2-HE_180406B: 141** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-013AMSD** Method: **SW6010B**

Analysis Date: **04/06/18 21:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9900	5.7	316	8004		75	125	9292	**6.3**	20	A
Barium	173	1.0	63.19	112	**97**	75	125	181.9	**5.0**	20	
Boron	63.0	1.3	63.19	0	**100**	75	125	64.9	**2.9**	20	
Copper	79.1	2.2	63.19	16.66	**99**	75	125	79.98	**1.1**	20	
Iron	11900	48	316	11380		75	125	11700	**2.0**	20	A
Lead	67.3	6.6	63.19	0	**106**	75	125	71.6	**6.2**	20	
Manganese	441	1.0	316	127.5	**99**	75	125	453.4	**2.7**	20	
Zinc	94.9	1.0	63.19	34.89	**95**	75	125	86.8	**8.9**	20	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180410B: 122** SampType: **Method Blank** Lab ID: **MB-41034** Method: **SW6020**

Analysis Date: **04/10/18 18:36** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.07	0.06									
Arsenic	ND	0.5									
Beryllium	ND	0.2									
Cadmium	ND	0.05									
Chromium	ND	0.5									
Cobalt	ND	0.05									
Lead	ND	0.07									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.4									
Uranium	ND	0.07									
Vanadium	ND	0.2									

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180410B: 126** SampType: **Laboratory Control Sample** Lab ID: **LCS-41034** Method: **SW6020**

Analysis Date: **04/10/18 18:45** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	58.2	1.0	240	0.06738	**24**	0	92.9				
Arsenic	151	1.0	196	0	**77**	71.4	105.1				
Beryllium	66.5	1.0	83.6	0	**80**	76.2	108				
Cadmium	91.4	1.0	99	0	**92**	73.9	106.1				
Chromium	102	1.0	117	0	**87**	73.5	108.5				
Cobalt	101	1.0	108	0	**94**	74.2	105.6				
Lead	93.0	1.0	105	0	**89**	74.4	108.6				
Molybdenum	112	1.0	127	0	**88**	66.5	103.1				
Nickel	76.9	1.0	86.2	0	**89**	72.3	105				
Selenium	178	1.0	205	0	**87**	71.2	110.2				
Silver	42.6	1.0	42.1	0	**101**	70.8	111.9				
Uranium	92.0	1.0	99.9	0	**92**	80.1	120.1				
Vanadium	98.0	1.0	114	0	**86**	67	107				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180410B: 127** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41034** Method: **SW6020**

Analysis Date: **04/10/18 18:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.6	1.0	49.15	0.06738	**101**	80	120				
Arsenic	48.1	1.0	49.15	0	**98**	80	120				
Beryllium	22.1	1.0	24.58	0	**90**	80	120				
Cadmium	24.7	1.0	24.58	0	**101**	80	120				
Chromium	47.4	1.0	49.15	0	**96**	80	120				
Cobalt	49.1	1.0	49.15	0	**100**	80	120				
Lead	49.6	1.0	49.15	0	**101**	80	120				
Molybdenum	49.5	1.0	49.15	0	**101**	80	120				
Nickel	48.7	1.0	49.15	0	**99**	80	120				
Selenium	46.6	1.0	49.15	0	**95**	80	120				
Silver	25.1	1.0	24.58	0	**102**	80	120				
Uranium	47.4	1.0	49.15	0	**97**	80	120				
Vanadium	46.3	1.0	49.15	0	**94**	80	120				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180410B: 142** SampType: **Serial Dilution** Lab ID: **H18030366-013ADIL** Method: **SW6020**

Analysis Date: **04/10/18 19:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.09807		10	
Arsenic	15.2	3.0		0		0	0	15.05		10	N
Beryllium	ND	1.1		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.08041		10	
Chromium	11.4	3.0		0		0	0	11.14		10	N
Cobalt	3.58	1.0		0		0	0	3.583	**0.0**	10	
Lead	5.05	1.0		0		0	0	5.073	**0.5**	10	
Molybdenum	ND	1.0		0		0	0	0		10	
Nickel	6.97	1.0		0		0	0	7	**0.4**	10	
Selenium	ND	1.3		0		0	0	0		10	
Silver	ND	2.7		0		0	0	0		10	
Uranium	0.594	1.0		0		0	0	0.6002		10	N
Vanadium	24.3	1.0		0		0	0	24.51	**0.8**	10	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180410B: 143** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-013APDS1** Method: **SW6020**

Analysis Date: **04/10/18 19:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	30.7	1.0	31.53	0.09807	97	75	125				
Arsenic	44.7	1.0	31.53	15.05	94	75	125				
Beryllium	26.7	1.0	31.53	0	85	75	125				
Cadmium	30.4	1.0	31.53	0.08041	96	75	125				
Chromium	40.3	1.0	31.53	11.14	93	75	125				
Cobalt	33.3	1.0	31.53	3.583	94	75	125				
Lead	35.4	1.0	31.53	5.073	96	75	125				
Molybdenum	30.0	1.0	31.53	0	95	75	125				
Nickel	36.9	1.0	31.53	7	95	75	125				
Selenium	30.0	1.0	31.53	0	95	75	125				
Silver	12.6	1.0	12.61	0	100	75	125				
Uranium	30.2	1.0	31.53	0.6002	94	75	125				
Vanadium	53.0	1.0	31.53	24.51	90	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180410B: 144** SampType: **Sample Matrix Spike** Lab ID: **H18030366-013AMS** Method: **SW6020**

Analysis Date: **04/10/18 19:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	39.4	1.0	63.97	0.09807	61	75	125				S
Arsenic	97.2	1.0	63.97	15.05	128	75	125				S
Beryllium	28.6	1.0	31.99	0	89	75	125				
Cadmium	31.9	1.0	31.99	0.08041	99	75	125				
Chromium	74.3	1.0	63.97	11.14	99	75	125				
Cobalt	64.7	1.0	63.97	3.583	95	75	125				
Lead	68.8	1.0	63.97	5.073	100	75	125				
Molybdenum	62.9	1.0	63.97	0	98	75	125				
Nickel	69.2	1.0	63.97	7	97	75	125				
Selenium	61.9	1.0	63.97	0	97	75	125				
Silver	32.4	1.0	31.99	0	101	75	125				
Uranium	61.4	1.0	63.97	0.6002	95	75	125				
Vanadium	86.9	1.0	63.97	24.51	98	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180410B: 144** SampType: **Sample Matrix Spike** Lab ID: **H18030366-013AMS** Method: **SW6020**

Analysis Date: **04/10/18 19:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180410B: 145** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-013AMSD** Method: **SW6020**

Analysis Date: **04/10/18 19:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	39.3	1.0	63.19	0.09807	62	75	125	39.41	0.3	20	S
Arsenic	85.1	1.0	63.19	15.05	111	75	125	97.17	13	20	
Beryllium	28.3	1.0	31.6	0	89	75	125	28.59	1.2	20	
Cadmium	31.8	1.0	31.6	0.08041	100	75	125	31.88	0.4	20	
Chromium	74.9	1.0	63.19	11.14	101	75	125	74.33	0.8	20	
Cobalt	65.8	1.0	63.19	3.583	98	75	125	64.67	1.7	20	
Lead	68.9	1.0	63.19	5.073	101	75	125	68.83	0.2	20	
Molybdenum	63.3	1.0	63.19	0	100	75	125	62.95	0.6	20	
Nickel	69.7	1.0	63.19	7	99	75	125	69.22	0.7	20	
Selenium	61.2	1.0	63.19	0	97	75	125	61.87	1.1	20	
Silver	32.2	1.0	31.6	0	102	75	125	32.36	0.3	20	
Uranium	63.2	1.0	63.19	0.6002	99	75	125	61.37	2.9	20	
Vanadium	89.0	1.0	63.19	24.51	102	75	125	86.94	2.4	20	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180411C: 134** SampType: **Method Blank** Lab ID: **MB-41034** Method: **SW6020**

Analysis Date: **04/12/18 01:15** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.06									
Arsenic	ND	0.5									
Beryllium	ND	0.2									
Cadmium	ND	0.05									
Chromium	ND	0.5									
Cobalt	ND	0.05									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180411C: 134** SampType: **Method Blank** Lab ID: **MB-41034** Method: **SW6020**

Analysis Date: **04/12/18 01:15** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.07									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.4									
Uranium	ND	0.07									
Vanadium	ND	0.2									

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180411C: 136** SampType: **Serial Dilution** Lab ID: **H18030366-004ADIL** Method: **SW6020**

Analysis Date: **04/12/18 01:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	1.965		10	
Arsenic	113	5.3		0		0	0	113.4	0.0	10	
Beryllium	ND	2.0		0		0	0	0.6243		10	
Cadmium	6.60	1.0		0		0	0	6.494	1.7	10	
Chromium	40.6	5.3		0		0	0	41.56		10	N
Cobalt	8.90	1.0		0		0	0	8.983	1.0	10	
Lead	246	1.0		0		0	0	243.6	0.8	10	
Molybdenum	10.7	1.1		0		0	0	10.76		10	N
Nickel	19.1	1.2		0		0	0	19.39	1.5	10	
Selenium	ND	2.4		0		0	0	1.182		10	
Silver	8.03	4.9		0		0	0	8.037		10	N
Uranium	6.56	1.0		0		0	0	6.673		10	N
Vanadium	69.2	1.9		0		0	0	72.33	4.4	10	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180411C: 141** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-004APDS1** Method: **SW6020**

Analysis Date: **04/12/18 01:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	56.3	1.0	56.64	1.965	96	75	125				
Arsenic	164	1.1	56.64	113.4	89	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180411C: 141** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-004APDS1** Method: **SW6020**

Analysis Date: **04/12/18 01:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	55.1	1.0	56.64	0.6243	96	75	125				
Cadmium	61.2	1.0	56.64	6.494	97	75	125				
Chromium	90.0	1.1	56.64	41.56	85	75	125				
Cobalt	61.9	1.0	56.64	8.983	93	75	125				
Lead	288	1.0	56.64	243.6		75	125				A
Molybdenum	64.0	1.0	56.64	10.76	94	75	125				
Nickel	73.9	1.0	56.64	19.39	96	75	125				
Selenium	54.8	1.0	56.64	1.182	95	75	125				
Silver	30.8	1.0	22.66	8.037	100	75	125				
Uranium	58.8	1.0	56.64	6.673	92	75	125				
Vanadium	118	1.0	56.64	72.33	81	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180411C: 142** SampType: **Sample Matrix Spike** Lab ID: **H18030366-004AMS** Method: **SW6020**

Analysis Date: **04/12/18 01:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	64.2	1.0	111.9	1.965	56	75	125				S
Arsenic	237	1.0	111.9	113.4	110	75	125				
Beryllium	61.3	1.0	55.95	0.6243	108	75	125				
Cadmium	66.5	1.0	55.95	6.494	107	75	125				
Chromium	155	1.1	111.9	41.56	102	75	125				
Cobalt	123	1.0	111.9	8.983	102	75	125				
Lead	376	1.0	111.9	243.6	118	75	125				
Molybdenum	128	1.0	111.9	10.76	105	75	125				
Nickel	139	1.0	111.9	19.39	107	75	125				
Selenium	117	1.0	111.9	1.182	103	75	125				
Silver	67.8	1.0	55.95	8.037	107	75	125				
Uranium	121	1.0	111.9	6.673	102	75	125				
Vanadium	187	1.0	111.9	72.33	102	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180411C: 143** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-004AMSD** Method: **SW6020**

Analysis Date: **04/12/18 01:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	65.0	1.0	112.7	1.965	56	75	125	64.19	1.2	20	S
Arsenic	229	1.1	112.7	113.4	103	75	125	236.5	3.1	20	
Beryllium	60.7	1.0	56.35	0.6243	107	75	125	61.3	1.1	20	
Cadmium	66.5	1.0	56.35	6.494	107	75	125	66.48	0.1	20	
Chromium	155	1.1	112.7	41.56	101	75	125	155.3	0.0	20	
Cobalt	121	1.0	112.7	8.983	100	75	125	123.3	1.6	20	
Lead	370	1.0	112.7	243.6	112	75	125	376	1.6	20	
Molybdenum	126	1.0	112.7	10.76	102	75	125	127.8	1.7	20	
Nickel	139	1.0	112.7	19.39	106	75	125	139.2	0.0	20	
Selenium	117	1.0	112.7	1.182	103	75	125	116.8	0.2	20	
Silver	68.9	1.0	56.35	8.037	108	75	125	67.84	1.6	20	
Uranium	121	1.0	112.7	6.673	101	75	125	120.6	0.4	20	
Vanadium	186	1.0	112.7	72.33	101	75	125	186.5	0.1	20	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180411C: 149** SampType: **Serial Dilution** Lab ID: **H18030366-013ADIL** Method: **SW6020**

Analysis Date: **04/12/18 01:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.1787		10	
Arsenic	15.7	3.0		0		0	0	15.94		10	N
Beryllium	ND	1.1		0		0	0	0.3259		10	
Cadmium	ND	1.0		0		0	0	0.08381		10	
Chromium	11.1	3.0		0		0	0	11.39		10	N
Cobalt	3.72	1.0		0		0	0	3.781	1.5	10	
Lead	5.32	1.0		0		0	0	5.387	1.3	10	
Molybdenum	ND	1.0		0		0	0	0.1249		10	
Nickel	7.31	1.0		0		0	0	7.498	2.6	10	
Selenium	ND	1.3		0		0	0	0		10	
Silver	ND	2.7		0		0	0	0		10	
Uranium	0.620	1.0		0		0	0	0.6521		10	N
Vanadium	22.7	1.0		0		0	0	24.08	6.0	10	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180411C: 150** SampType: **Laboratory Control Sample** Lab ID: **LCS-41034** Method: **SW6020**

Analysis Date: **04/12/18 01:49** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	61.6	1.0	240	0	**26**	0	92.9				
Arsenic	162	1.0	196	0	**83**	71.4	105.1				
Beryllium	81.4	1.0	83.6	0	**97**	76.2	108				
Cadmium	100	1.0	99	0	**101**	73.9	106.1				
Chromium	99.5	1.0	117	0	**85**	73.5	108.5				
Cobalt	106	1.0	108	0	**98**	74.2	105.6				
Lead	98.6	1.0	105	0	**94**	74.4	108.6				
Molybdenum	118	1.0	127	0	**93**	66.5	103.1				
Nickel	83.8	1.0	86.2	0	**97**	72.3	105				
Selenium	194	1.0	205	0	**95**	71.2	110.2				
Silver	45.4	1.0	42.1	0	**108**	70.8	111.9				
Uranium	100	1.0	99.9	0	**100**	80.1	120.1				
Vanadium	93.8	1.0	114	0	**82**	67	107				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180411C: 151** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41034** Method: **SW6020**

Analysis Date: **04/12/18 01:51** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.5	1.0	49.15	0	**109**	80	120				
Arsenic	50.9	1.0	49.15	0	**104**	80	120				
Beryllium	27.0	1.0	24.58	0	**110**	80	120				
Cadmium	27.0	1.0	24.58	0	**110**	80	120				
Chromium	47.9	1.0	49.15	0	**97**	80	120				
Cobalt	50.9	1.0	49.15	0	**104**	80	120				
Lead	51.4	1.0	49.15	0	**104**	80	120				
Molybdenum	51.9	1.0	49.15	0	**106**	80	120				
Nickel	52.4	1.0	49.15	0	**107**	80	120				
Selenium	51.5	1.0	49.15	0	**105**	80	120				
Silver	27.6	1.0	24.58	0	**112**	80	120				
Uranium	50.2	1.0	49.15	0	**102**	80	120				
Vanadium	45.8	1.0	49.15	0	**93**	80	120				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180411C: 152** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-013APDS1** Method: **SW6020**

Analysis Date: **04/12/18 01:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	32.9	1.0	31.53	0.1787	104	75	125				
Arsenic	46.5	1.0	31.53	15.94	97	75	125				
Beryllium	32.3	1.0	31.53	0.3259	101	75	125				
Cadmium	33.0	1.0	31.53	0.08381	104	75	125				
Chromium	39.8	1.0	31.53	11.39	90	75	125				
Cobalt	34.6	1.0	31.53	3.781	98	75	125				
Lead	37.0	1.0	31.53	5.387	100	75	125				
Molybdenum	32.0	1.0	31.53	0.1249	101	75	125				
Nickel	39.2	1.0	31.53	7.498	100	75	125				
Selenium	32.3	1.0	31.53	0	102	75	125				
Silver	13.7	1.0	12.61	0	109	75	125				
Uranium	32.7	1.0	31.53	0.6521	102	75	125				
Vanadium	51.4	1.0	31.53	24.08	87	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180411C: 153** SampType: **Sample Matrix Spike** Lab ID: **H18030366-013AMS** Method: **SW6020**

Analysis Date: **04/12/18 01:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	41.1	1.0	63.97	0.1787	64	75	125				S
Arsenic	102	1.0	63.97	15.94	134	75	125				S
Beryllium	34.5	1.0	31.99	0.3259	107	75	125				
Cadmium	33.8	1.0	31.99	0.08381	105	75	125				
Chromium	72.5	1.0	63.97	11.39	95	75	125				
Cobalt	66.8	1.0	63.97	3.781	99	75	125				
Lead	71.1	1.0	63.97	5.387	103	75	125				
Molybdenum	64.7	1.0	63.97	0.1249	101	75	125				
Nickel	73.9	1.0	63.97	7.498	104	75	125				
Selenium	66.3	1.0	63.97	0	104	75	125				
Silver	34.6	1.0	31.99	0	108	75	125				
Uranium	66.1	1.0	63.97	0.6521	102	75	125				
Vanadium	82.0	1.0	63.97	24.08	91	75	125				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41034

Run ID :Run Order: **ICPMS205-H_180411C: 154** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-013AMSD** Method: **SW6020**

Analysis Date: **04/12/18 01:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	41.0	1.0	63.19	0.1787	**65**	75	125	41.11	**0.3**	20	S
Arsenic	88.6	1.0	63.19	15.94	**115**	75	125	101.6	**14**	20	
Beryllium	33.8	1.0	31.6	0.3259	**106**	75	125	34.51	**2.1**	20	
Cadmium	33.7	1.0	31.6	0.08381	**106**	75	125	33.75	**0.3**	20	
Chromium	71.5	1.0	63.19	11.39	**95**	75	125	72.48	**1.4**	20	
Cobalt	67.4	1.0	63.19	3.781	**101**	75	125	66.85	**0.9**	20	
Lead	71.3	1.0	63.19	5.387	**104**	75	125	71.07	**0.4**	20	
Molybdenum	64.7	1.0	63.19	0.1249	**102**	75	125	64.67	**0.1**	20	
Nickel	72.5	1.0	63.19	7.498	**103**	75	125	73.89	**1.8**	20	
Selenium	66.2	1.0	63.19	0	**105**	75	125	66.34	**0.2**	20	
Silver	34.2	1.0	31.6	0	**108**	75	125	34.6	**1.1**	20	
Uranium	66.7	1.0	63.19	0.6521	**105**	75	125	66.08	**1.0**	20	
Vanadium	84.0	1.0	63.19	24.08	**95**	75	125	82.01	**2.4**	20	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICP2-HE_180406B: 142** SampType: **Method Blank** Lab ID: **MB-41035** Method: **SW6010B**

Analysis Date: **04/06/18 21:55** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1	1.0									
Barium	ND	0.06									
Boron	ND	0.2									
Copper	ND	0.3									
Iron	8	7									
Manganese	0.2	0.08									
Zinc	0.4	0.1									

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 143** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41035** Method: **SW6010B**

Analysis Date: **04/06/18 21:59** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	246	5.0	243	1.042	**101**	80	120				
Barium	49.7	1.0	48.6	0	**102**	80	120				
Boron	47.7	1.0	48.6	0	**98**	80	120				
Copper	49.5	1.0	48.6	0	**102**	80	120				
Iron	244	7.4	243	8.016	**97**	80	120				
Manganese	241	1.0	243	0.1581	**99**	80	120				
Zinc	46.8	1.0	48.6	0.4493	**95**	80	120				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 144** SampType: **Laboratory Control Sample** Lab ID: **LCS-41035** Method: **SW6010B**

Analysis Date: **04/06/18 22:03** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9260	5.0	9712	1.042	**95**	46.3	130.2				
Barium	172	1.0	184.8	0	**93**	78.6	112.8				
Boron	109	1.0	127.5	0	**86**	59.5	106.2				
Copper	122	1.7	135.4	0	**90**	76.6	108.8				
Iron	14900	38	16100	8.016	**93**	51.7	131.9				
Manganese	409	1.0	428.8	0.1581	**95**	81.1	116.6				
Zinc	231	1.0	228.2	0.4493	**101**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICP2-HE_180406B: 144** SampType: **Laboratory Control Sample** Lab ID: **LCS-41035** Method: **SW6010B**

Analysis Date: **04/06/18 22:03** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 148** SampType: **Serial Dilution** Lab ID: **H18030366-014ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 22:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7370	26		0		0	0	7471	1.4	10	
Barium	133	1.8		0		0	0	134.4	0.9	10	
Boron	ND	6.0		0		0	0	0		10	
Copper	37.5	10.0		0		0	0	38.96		10	N
Iron	13200	220		0		0	0	13130	0.3	10	
Manganese	133	2.4		0		0	0	134.8	1.4	10	
Zinc	62.0	2.9		0		0	0	58.32	6.2	10	

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 149** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-014APDS** Method: **SW6010B**

Analysis Date: **04/06/18 22:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9120	5.4	1480	7471		75	125				A
Barium	423	1.0	296.1	134.4	97	75	125				
Boron	277	1.2	296.1	0	93	75	125				
Copper	330	2.1	296.1	38.96	98	75	125				
Iron	14500	45	1480	13130		75	125				A
Manganese	1550	1.0	1480	134.8	96	75	125				
Zinc	330	1.0	296.1	58.32	92	75	125				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 150** SampType: **Sample Matrix Spike** Lab ID: **H18030366-014AMS** Method: **SW6010B**

Analysis Date: **04/06/18 22:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10700	5.3	289.9	7471		75	125				A
Barium	194	1.0	57.98	134.4	102	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICP2-HE_180406B: 150** SampType: **Sample Matrix Spike** Lab ID: **H18030366-014AMS** Method: **SW6010B**

Analysis Date: **04/06/18 22:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	56.4	1.2	57.98	0	97	75	125				
Copper	74.4	2.0	57.98	38.96	61	75	125				S
Iron	10900	44	289.9	13130		75	125				A
Manganese	419	1.0	289.9	134.8	98	75	125				
Zinc	80.8	1.0	57.98	58.32	39	75	125				S

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180406B: 161** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-014AMSD** Method: **SW6010B**

Analysis Date: **04/06/18 23:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9630	5.3	292.7	7471		75	125	10670	10	20	A
Barium	200	1.0	58.54	134.4	112	75	125	193.6	3.2	20	
Boron	56.7	1.2	58.54	0	97	75	125	56.39	0.6	20	
Copper	79.3	2.0	58.54	38.96	69	75	125	74.41	6.3	20	S
Iron	11100	44	292.7	13130		75	125	10850	2.4	20	A
Manganese	412	1.0	292.7	134.8	95	75	125	419.1	1.8	20	
Zinc	124	1.0	58.54	58.32	111	75	125	80.83	42	20	R

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180406B: 174** SampType: **Serial Dilution** Lab ID: **H18040032-010ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 23:56** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3480	22		0		0	0	3319	4.7	10	
Barium	14.5	1.5		0		0	0	13.86		10	N
Boron	ND	5.1		0		0	0	0		10	
Copper	28.5	8.6		0		0	0	22.03		10	N
Iron	7200	190		0		0	0	6800	5.7	10	
Manganese	111	2.0		0		0	0	105.8	4.5	10	
Zinc	7.58	2.5		0		0	0	5.378		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICP2-HE_180406B: 174** SampType: **Serial Dilution** Lab ID: **H18040032-010ADIL** Method: **SW6010B**

Analysis Date: **04/06/18 23:56** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 175** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18040032-010APDS** Method: **SW6010B**

Analysis Date: **04/06/18 23:59** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4700	5.0	1269	3319	109	75	125				
Barium	257	1.0	253.9	13.86	96	75	125				
Boron	225	1.1	253.9	0	89	75	125				
Copper	264	1.8	253.9	22.03	95	75	125				
Iron	8170	39	1269	6800		75	125				A
Manganese	1320	1.0	1269	105.8	96	75	125				
Zinc	230	1.0	253.9	5.378	88	75	125				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 176** SampType: **Sample Matrix Spike** Lab ID: **H18040032-010AMS** Method: **SW6010B**

Analysis Date: **04/07/18 00:03** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7090	5.0	249.5	3319		75	125				A
Barium	49.7	1.0	49.9	13.86	72	75	125				S
Boron	44.3	1.0	49.9	0	89	75	125				
Copper	66.7	1.7	49.9	22.03	90	75	125				
Iron	13400	38	249.5	6800		75	125				A
Manganese	480	1.0	249.5	105.8	150	75	125				S
Zinc	50.6	1.0	49.9	5.378	91	75	125				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180406B: 177** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18040032-010AMSD** Method: **SW6010B**

Analysis Date: **04/07/18 00:07** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7230	5.0	245.8	3319		75	125	7087	2.1	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICP2-HE_180406B: 177** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18040032-010AMSD** Method: **SW6010B**

Analysis Date: **04/07/18 00:07** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	47.9	1.0	49.15	13.86	69	75	125	49.67	3.6	20	S
Boron	44.3	1.0	49.15	0	90	75	125	44.34	0.0	20	
Copper	65.6	1.7	49.15	22.03	89	75	125	66.73	1.8	20	
Iron	13900	37	245.8	6800		75	125	13400	3.4	20	A
Manganese	474	1.0	245.8	105.8	150	75	125	479.8	1.2	20	S
Zinc	49.9	1.0	49.15	5.378	91	75	125	50.61	1.3	20	

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICPMS205-H_180411C: 55** SampType: **Method Blank** Lab ID: **MB-41035** Method: **SW6020**

Analysis Date: **04/11/18 22:29** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.5	0.07									
Arsenic	ND	0.5									
Beryllium	ND	0.2									
Cadmium	ND	0.05									
Chromium	ND	0.5									
Cobalt	ND	0.05									
Lead	ND	0.07									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.4									
Uranium	ND	0.07									
Vanadium	ND	0.2									

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICPMS205-H_180411C: 59** SampType: **Serial Dilution** Lab ID: **H18030366-014ADIL** Method: **SW6020**

Analysis Date: **04/11/18 22:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.0		0		0	0	0.8842		10	
Arsenic	33.9	2.7		0		0	0	33.27	**1.8**	10	
Beryllium	ND	1.0		0		0	0	0.3308		10	
Cadmium	ND	1.0		0		0	0	0.2136		10	
Chromium	10.8	2.7		0		0	0	10.79		10	N
Cobalt	3.67	1.0		0		0	0	3.694	**0.8**	10	
Lead	19.6	1.0		0		0	0	18.32	**6.6**	10	
Molybdenum	ND	1.0		0		0	0	0.1414		10	
Nickel	7.57	1.0		0		0	0	7.549	**0.3**	10	
Selenium	ND	1.2		0		0	0	0.6422		10	
Silver	ND	2.5		0		0	0	0		10	
Uranium	0.859	1.0		0		0	0	0.8256		10	N
Vanadium	18.9	1.0		0		0	0	19.72	**4.4**	10	

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICPMS205-H_180411C: 61** SampType: **Laboratory Control Sample** Lab ID: **LCS-41035** Method: **SW6020**

Analysis Date: **04/11/18 22:42** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	62.3	1.0	237.1	0.4884	**26**	0	92.9				
Arsenic	167	1.0	193.6	0	**86**	71.4	105.1				
Beryllium	77.0	1.0	82.6	0	**93**	76.2	108				
Cadmium	96.8	1.0	97.81	0	**99**	73.9	106.1				
Chromium	105	1.0	115.6	0	**91**	73.5	108.5				
Cobalt	106	1.0	106.7	0	**99**	74.2	105.6				
Lead	102	1.0	103.7	0	**98**	74.4	108.6				
Molybdenum	116	1.0	125.5	0	**93**	66.5	103.1				
Nickel	81.0	1.0	85.17	0	**95**	72.3	105				
Selenium	193	1.0	202.5	0	**95**	71.2	110.2				
Silver	43.8	1.0	41.59	0	**105**	70.8	111.9				
Uranium	96.4	1.0	98.7	0	**98**	80.1	120.1				
Vanadium	102	1.0	112.6	0	**91**	67	107				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICPMS205-H_180411C: 62** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41035** Method: **SW6020**

Analysis Date: **04/11/18 22:43** Units: **mg/kg** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.5	1.0	48.6	0.4884	**103**	80	120				
Arsenic	48.2	1.0	48.6	0	**99**	80	120				
Beryllium	24.3	1.0	24.3	0	**100**	80	120				
Cadmium	25.1	1.0	24.3	0	**103**	80	120				
Chromium	46.0	1.0	48.6	0	**95**	80	120				
Cobalt	48.3	1.0	48.6	0	**99**	80	120				
Lead	48.6	1.0	48.6	0	**100**	80	120				
Molybdenum	50.1	1.0	48.6	0	**103**	80	120				
Nickel	48.8	1.0	48.6	0	**100**	80	120				
Selenium	48.0	1.0	48.6	0	**99**	80	120				
Silver	25.4	1.0	24.3	0	**104**	80	120				
Uranium	46.8	1.0	48.6	0	**96**	80	120				
Vanadium	44.8	1.0	48.6	0	**92**	80	120				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICPMS205-H_180411C: 63** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-014APDS1** Method: **SW6020**

Analysis Date: **04/11/18 22:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	29.3	1.0	28.75	0.8842	99	75	125				
Arsenic	60.8	1.0	28.75	33.27	96	75	125				
Beryllium	26.9	1.0	28.75	0.3308	93	75	125				
Cadmium	28.6	1.0	28.75	0.2136	99	75	125				
Chromium	37.1	1.0	28.75	10.79	91	75	125				
Cobalt	31.1	1.0	28.75	3.694	95	75	125				
Lead	42.9	1.0	28.75	18.32	86	75	125				
Molybdenum	28.0	1.0	28.75	0.1414	97	75	125				
Nickel	35.8	1.0	28.75	7.549	98	75	125				
Selenium	28.5	1.0	28.75	0.6422	97	75	125				
Silver	11.9	1.0	11.5	0	103	75	125				
Uranium	25.3	1.0	28.75	0.8256	85	75	125				
Vanadium	45.1	1.0	28.75	19.72	88	75	125				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Run ID :Run Order: **ICPMS205-H_180411C: 64** SampType: **Sample Matrix Spike** Lab ID: **H18030366-014AMS** Method: **SW6020**

Analysis Date: **04/11/18 22:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	38.6	1.0	57.98	0.8842	65	75	125				S
Arsenic	72.0	1.0	57.98	33.27	67	75	125				S
Beryllium	29.1	1.0	28.99	0.3308	99	75	125				
Cadmium	29.8	1.0	28.99	0.2136	102	75	125				
Chromium	67.5	1.0	57.98	10.79	98	75	125				
Cobalt	60.4	1.0	57.98	3.694	98	75	125				
Lead	63.4	1.0	57.98	18.32	78	75	125				
Molybdenum	58.1	1.0	57.98	0.1414	100	75	125				
Nickel	66.6	1.0	57.98	7.549	102	75	125				
Selenium	57.2	1.0	57.98	0.6422	98	75	125				
Silver	30.2	1.0	28.99	0	104	75	125				
Uranium	59.0	1.0	57.98	0.8256	100	75	125				
Vanadium	73.6	1.0	57.98	19.72	93	75	125				

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41035

Run ID :Run Order: **ICPMS205-H_180411C: 65** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-014AMSD** Method: **SW6020**

Analysis Date: **04/11/18 22:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/5/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	42.3	1.0	58.54	0.8842	71	75	125	38.63	9.0	20	S
Arsenic	68.7	1.0	58.54	33.27	61	75	125	71.96	4.6	20	S
Beryllium	28.9	1.0	29.27	0.3308	98	75	125	29.07	0.7	20	
Cadmium	29.8	1.0	29.27	0.2136	101	75	125	29.81	0.2	20	
Chromium	68.4	1.0	58.54	10.79	98	75	125	67.49	1.3	20	
Cobalt	59.8	1.0	58.54	3.694	96	75	125	60.36	1.0	20	
Lead	67.5	1.0	58.54	18.32	84	75	125	63.38	6.3	20	
Molybdenum	57.5	1.0	58.54	0.1414	98	75	125	58.1	1.1	20	
Nickel	66.1	1.0	58.54	7.549	100	75	125	66.62	0.8	20	
Selenium	57.5	1.0	58.54	0.6422	97	75	125	57.18	0.5	20	
Silver	30.1	1.0	29.27	0	103	75	125	30.25	0.4	20	
Uranium	58.3	1.0	58.54	0.8256	98	75	125	58.97	1.2	20	
Vanadium	72.9	1.0	58.54	19.72	91	75	125	73.64	1.0	20	

Associated samples: **H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 19** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6010B**

Analysis Date: **04/09/18 14:15** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.9									
Barium	ND	0.06									
Boron	0.2	0.2									
Copper	ND	0.3									
Iron	ND	8									
Manganese	0.1	0.08									
Zinc	0.6	0.1									

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 22** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41056** Method: **SW6010B**

Analysis Date: **04/09/18 14:27** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	248	5.0	240.8	0	**103**	80	120				
Barium	50.1	1.0	48.15	0	**104**	80	120				
Boron	47.9	1.0	48.15	0.2143	**99**	80	120				
Copper	49.8	1.0	48.15	0	**103**	80	120				
Iron	246	7.3	240.8	0	**102**	80	120				
Manganese	243	1.0	240.8	0.1228	**101**	80	120				
Zinc	46.9	1.0	48.15	0.5633	**96**	80	120				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 23** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6010B**

Analysis Date: **04/09/18 14:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9600	5.0	9771	0	**98**	46.3	130.2				
Barium	173	1.0	185.9	0	**93**	78.6	112.8				
Boron	107	1.0	128.2	0.2143	**83**	59.5	106.2				
Copper	129	1.7	136.2	0	**95**	76.6	108.8				
Iron	14800	38	16200	0	**91**	51.7	131.9				
Manganese	416	1.0	431.4	0.1228	**96**	81.1	116.6				
Zinc	229	1.0	229.6	0.5633	**99**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 23** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6010B**

Analysis Date: **04/09/18 14:30** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 25** SampType: **Serial Dilution** Lab ID: **H18030365-026ADIL** Method: **SW6010B**

Analysis Date: **04/09/18 14:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	15200	64		0		0	0	14930	1.7	10	
Barium	252	4.4		0		0	0	247.2	1.9	10	
Boron	ND	15		0		0	0	14.24		10	
Copper	741	24		0		0	0	722.1	2.7	10	
Iron	26400	530		0		0	0	25600	3.0	10	
Manganese	2410	5.7		0		0	0	2341	2.9	10	
Zinc	2240	7.2		0		0	0	2197	2.0	10	

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 26** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030365-026APDS** Method: **SW6010B**

Analysis Date: **04/09/18 14:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	18700	13	3611	14930		75	125				A
Barium	953	1.0	722.2	247.2	98	75	125				
Boron	681	3.0	722.2	14.24	92	75	125				
Copper	1440	5.0	722.2	722.1	99	75	125				
Iron	29100	110	3611	25600		75	125				A
Manganese	5800	1.2	3611	2341	96	75	125				
Zinc	2820	1.5	722.2	2197	86	75	125				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 53** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6010B**

Analysis Date: **04/09/18 16:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3720	25		0		0	0	3634	2.2	10	
Barium	61.4	1.7		0		0	0	60.16	2.1	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 53** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6010B**

Analysis Date: **04/09/18 16:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	5.8		0		0	0	1.427		10	
Copper	759	9.6		0		0	0	744.3	1.9	10	
Iron	89800	210		0		0	0	84130	6.5	10	
Manganese	1000	2.3		0		0	0	971.8	2.9	10	
Zinc	1110	2.8		0		0	0	1084	2.3	10	

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 54** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-010APDS** Method: **SW6010B**

Analysis Date: **04/09/18 16:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5130	5.2	1424	3634	105	75	125				
Barium	333	1.0	284.8	60.16	96	75	125				
Boron	264	1.2	284.8	1.427	92	75	125				
Copper	1030	2.0	284.8	744.3	101	75	125				
Iron	86400	43	1424	84130		75	125				A
Manganese	2330	1.0	1424	971.8	95	75	125				
Zinc	1370	1.0	284.8	1084	99	75	125				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 55** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6010B**

Analysis Date: **04/09/18 16:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6020	5.9	326.6	3634		75	125				A
Barium	147	1.0	65.32	60.16	132	75	125				S
Boron	65.0	1.4	65.32	1.427	97	75	125				
Copper	1140	2.3	65.32	744.3		75	125				A
Iron	84100	50	326.6	84130		75	125				AE
Manganese	1770	1.0	326.6	971.8	244	75	125				S
Zinc	2090	1.0	65.32	1084		75	125				A

Associated samples: **H18030366-010A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-010AMSD** Method: **SW6010B**

Analysis Date: **04/09/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5780	5.9	326.6	3634		75	125	6020	4.0	20	A
Barium	181	1.0	65.32	60.16	184	75	125	146.5	21	20	SR
Boron	66.1	1.4	65.32	1.427	99	75	125	65.04	1.6	20	
Copper	1300	2.3	65.32	744.3		75	125	1143	13	20	A
Iron	84100	49	326.6	84130		75	125	84070	0.1	20	AE
Manganese	1750	1.0	326.6	971.8	239	75	125	1767	0.9	20	S
Zinc	1750	1.0	65.32	1084		75	125	2092	18	20	A

Associated samples: **H18030366-010A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180409B: 61** SampType: **Serial Dilution** Lab ID: **H18030496-014ADIL** Method: **SW6010B**

Analysis Date: **04/09/18 16:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	13100	30		0		0	0	11310	15	10	R
Barium	401	2.1		0		0	0	340.8	16	10	R
Boron	17.4	7.0		0		0	0	13.9		10	N
Copper	65.9	12		0		0	0	58.56		10	N
Iron	20300	250		0		0	0	16840	18	10	R
Manganese	669	2.7		0		0	0	564.1	17	10	R
Zinc	128	3.4		0		0	0	106.2	19	10	R

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 62** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030496-014APDS** Method: **SW6010B**

Analysis Date: **04/09/18 16:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	14600	6.2	1720	11310		75	125				A
Barium	704	1.0	344.1	340.8	106	75	125				
Boron	330	1.4	344.1	13.9	92	75	125				
Copper	390	2.4	344.1	58.56	96	75	125				
Iron	20700	52	1720	16840		75	125				A
Manganese	2210	1.0	1720	564.1	95	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180409B: 62** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030496-014APDS** Method: **SW6010B**

Analysis Date: **04/09/18 16:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/3/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	430	1.0	344.1	106.2	94	75	125				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 26** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6010B**

Analysis Date: **04/16/18 10:43** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.9									
Barium	ND	0.06									
Boron	ND	0.2									
Copper	ND	0.3									
Iron	ND	8									
Manganese	ND	0.08									
Zinc	0.5	0.1									

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 27** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41056** Method: **SW6010B**

Analysis Date: **04/16/18 10:47** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	244	5.0	240.8	0	101	80	120				
Barium	49.3	1.0	48.15	0	102	80	120				
Boron	47.4	1.0	48.15	0	98	80	120				
Copper	48.7	1.0	48.15	0	101	80	120				
Iron	244	7.3	240.8	0	102	80	120				
Manganese	240	1.0	240.8	0	100	80	120				
Zinc	47.2	1.0	48.15	0.4717	97	80	120				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6010B**

Analysis Date: **04/16/18 10:51** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9510	5.0	9771	0	97	46.3	130.2				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180416A: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6010B**

Analysis Date: **04/16/18 10:51** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	169	1.0	185.9	0	91	78.6	112.8				
Boron	107	1.0	128.2	0	83	59.5	106.2				
Copper	125	1.7	136.2	0	92	76.6	108.8				
Iron	14600	38	16200	0	90	51.7	131.9				
Manganese	405	1.0	431.4	0	94	81.1	116.6				
Zinc	233	1.0	229.6	0.4717	101	75.3	111.7				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 30** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6010B**

Analysis Date: **04/16/18 10:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3800	130		0		0	0	3795	0.1	10	
Barium	64.0	8.7		0		0	0	63.12		10	N
Boron	ND	29		0		0	0	0		10	
Copper	802	48		0		0	0	766.3	4.6	10	
Iron	91500	1000		0		0	0	90440	1.1	10	
Manganese	1000	11		0		0	0	1008	0.4	10	
Zinc	1190	14		0		0	0	1150	3.4	10	

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 33** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-010APDS** Method: **SW6010B**

Analysis Date: **04/16/18 11:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11000	26	7120	3795	102	75	125				
Barium	1490	1.8	1424	63.12	100	75	125				
Boron	1340	5.9	1424	0	94	75	125				
Copper	2210	9.9	1424	766.3	101	75	125				
Iron	94500	220	7120	90440		75	125				A
Manganese	7850	2.3	7120	1008	96	75	125				
Zinc	2490	2.9	1424	1150	94	75	125				

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICP2-HE_180416A: 34** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6010B**

Analysis Date: **04/16/18 11:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6470	30	326.6	3795		75	125				A
Barium	153	2.0	65.32	63.12	137	75	125				S
Boron	65.7	6.8	65.32	0	101	75	125				
Copper	1160	11	65.32	766.3		75	125				A
Iron	86800	250	326.6	90440		75	125				A
Manganese	1770	2.7	326.6	1008	232	75	125				S
Zinc	2180	3.3	65.32	1150		75	125				A

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-010AMSD** Method: **SW6010B**

Analysis Date: **04/16/18 11:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6300	30	326.6	3795		75	125	6466	2.6	20	A
Barium	193	2.0	65.32	63.12	199	75	125	152.9	23	20	SR
Boron	63.1	6.8	65.32	0	97	75	125	65.74	4.1	20	
Copper	1360	11	65.32	766.3		75	125	1163	16	20	A
Iron	89700	250	326.6	90440		75	125	86750	3.4	20	A
Manganese	1820	2.7	326.6	1008	250	75	125	1766	3.2	20	S
Zinc	1780	3.3	65.32	1150		75	125	2178	20	20	AR

Associated samples: **H18030366-010A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180410B: 150** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6020**

Analysis Date: **04/10/18 19:35** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	ND	0.5									
Beryllium	ND	0.2									
Cadmium	ND	0.05									
Chromium	ND	0.5									
Cobalt	ND	0.06									
Lead	0.07	0.07									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.4									
Uranium	ND	0.07									
Vanadium	ND	0.2									

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180410B: 152** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6020**

Analysis Date: **04/10/18 19:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.58	1.0		0		0	0	2.12		10	N
Arsenic	82.8	2.6		0		0	0	82.01	**1.0**	10	
Beryllium	ND	1.0		0		0	0	0		10	
Cadmium	2.20	1.0		0		0	0	2.15		10	N
Chromium	28.5	2.6		0		0	0	27.74	**2.6**	10	
Cobalt	16.3	1.0		0		0	0	15.88	**2.4**	10	
Lead	161	1.0		0		0	0	149.2	**7.3**	10	
Molybdenum	2.08	1.0		0		0	0	2.051		10	N
Nickel	11.9	1.0		0		0	0	11.66	**2.3**	10	
Selenium	1.97	1.2		0		0	0	2.017		10	N
Silver	3.15	2.4		0		0	0	3.103		10	N
Uranium	5.22	1.0		0		0	0	4.929	**5.6**	10	
Vanadium	106	1.0		0		0	0	109.2	**3.1**	10	

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180410B: 153** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6020**

Analysis Date: **04/10/18 19:41** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	58.0	1.0	238.6	0	**24**	0	92.9				
Arsenic	159	1.0	194.8	0	**82**	71.4	105.1				
Beryllium	68.3	1.0	83.1	0	**82**	76.2	108				
Cadmium	94.4	1.0	98.41	0	**96**	73.9	106.1				
Chromium	106	1.0	116.3	0	**91**	73.5	108.5				
Cobalt	103	1.0	107.4	0	**96**	74.2	105.6				
Lead	98.5	1.0	104.4	0.07108	**94**	74.4	108.6				
Molybdenum	116	1.0	126.2	0	**92**	66.5	103.1				
Nickel	78.9	1.0	85.68	0	**92**	72.3	105				
Selenium	183	1.0	203.8	0	**90**	71.2	110.2				
Silver	41.9	1.0	41.85	0	**100**	70.8	111.9				
Uranium	93.9	1.0	99.3	0	**95**	80.1	120.1				
Vanadium	102	1.0	113.3	0	**90**	67	107				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180410B: 154** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41056** Method: **SW6020**

Analysis Date: **04/10/18 19:43** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.0	1.0	48.15	0	**100**	80	120				
Arsenic	46.6	1.0	48.15	0	**97**	80	120				
Beryllium	21.4	1.0	24.07	0	**89**	80	120				
Cadmium	24.0	1.0	24.07	0	**100**	80	120				
Chromium	45.5	1.0	48.15	0	**94**	80	120				
Cobalt	48.1	1.0	48.15	0	**100**	80	120				
Lead	48.2	1.0	48.15	0.07108	**100**	80	120				
Molybdenum	47.8	1.0	48.15	0	**99**	80	120				
Nickel	48.0	1.0	48.15	0	**100**	80	120				
Selenium	46.1	1.0	48.15	0	**96**	80	120				
Silver	24.6	1.0	24.07	0	**102**	80	120				
Uranium	46.0	1.0	48.15	0	**95**	80	120				
Vanadium	45.4	1.0	48.15	0	**94**	80	120				

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180410B: 155** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-010APDS1** Method: **SW6020**

Analysis Date: **04/10/18 19:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	27.8	1.0	27.65	2.12	93	75	125				
Arsenic	104	1.0	27.65	82.01	80	75	125				
Beryllium	23.7	1.0	27.65	0	86	75	125				
Cadmium	27.8	1.0	27.65	2.15	93	75	125				
Chromium	51.1	1.0	27.65	27.74	85	75	125				
Cobalt	40.5	1.0	27.65	15.88	89	75	125				
Lead	171	1.0	27.65	149.2		75	125				A
Molybdenum	26.9	1.0	27.65	2.051	90	75	125				
Nickel	36.8	1.0	27.65	11.66	91	75	125				
Selenium	26.7	1.0	27.65	2.017	89	75	125				
Silver	13.7	1.0	11.06	3.103	96	75	125				
Uranium	28.2	1.0	27.65	4.929	84	75	125				
Vanadium	132	1.0	27.65	109.2	83	75	125				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180410B: 156** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6020**

Analysis Date: **04/10/18 19:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.8	1.0	65.32	2.12	72	75	125				S
Arsenic	162	1.0	65.32	82.01	122	75	125				
Beryllium	28.3	1.0	32.66	0	87	75	125				
Cadmium	38.1	1.0	32.66	2.15	110	75	125				
Chromium	94.1	1.0	65.32	27.74	102	75	125				
Cobalt	78.7	1.0	65.32	15.88	96	75	125				
Lead	312	1.0	65.32	149.2	249	75	125				S
Molybdenum	69.0	1.0	65.32	2.051	102	75	125				
Nickel	76.3	1.0	65.32	11.66	99	75	125				
Selenium	65.1	1.0	65.32	2.017	97	75	125				
Silver	37.2	1.0	32.66	3.103	104	75	125				
Uranium	65.0	1.0	65.32	4.929	92	75	125				
Vanadium	164	1.0	65.32	109.2	84	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180410B: 156** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6020**

Analysis Date: **04/10/18 19:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-010A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180410B: 157** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-010AMSD** Method: **SW6020**

Analysis Date: **04/10/18 19:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.9	1.0	65.32	2.12	70	75	125	48.84	2.0	20	S
Arsenic	157	1.0	65.32	82.01	115	75	125	161.8	2.8	20	
Beryllium	29.9	1.0	32.66	0	92	75	125	28.28	5.6	20	
Cadmium	37.4	1.0	32.66	2.15	108	75	125	38.14	2.0	20	
Chromium	98.8	1.0	65.32	27.74	109	75	125	94.14	4.8	20	
Cobalt	80.1	1.0	65.32	15.88	98	75	125	78.69	1.8	20	
Lead	315	1.0	65.32	149.2	255	75	125	312	1.1	20	S
Molybdenum	69.1	1.0	65.32	2.051	103	75	125	68.98	0.2	20	
Nickel	77.7	1.0	65.32	11.66	101	75	125	76.28	1.8	20	
Selenium	65.9	1.0	65.32	2.017	98	75	125	65.13	1.2	20	
Silver	36.9	1.0	32.66	3.103	104	75	125	37.21	0.8	20	
Uranium	63.8	1.0	65.32	4.929	90	75	125	65.03	1.9	20	
Vanadium	161	1.0	65.32	109.2	79	75	125	164	2.0	20	

Associated samples: **H18030366-010A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180411C: 159** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6020**

Analysis Date: **04/12/18 02:08** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.07									
Arsenic	ND	0.5									
Beryllium	ND	0.2									
Cadmium	ND	0.05									
Chromium	ND	0.5									
Cobalt	ND	0.06									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180411C: 159** SampType: **Method Blank** Lab ID: **MB-41056** Method: **SW6020**

Analysis Date: **04/12/18 02:08** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.07									
Molybdenum	ND	0.09									
Nickel	ND	0.1									
Selenium	ND	0.2									
Silver	ND	0.4									
Uranium	ND	0.07									
Vanadium	ND	0.2									

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180411C: 161** SampType: **Serial Dilution** Lab ID: **H18030366-010ADIL** Method: **SW6020**

Analysis Date: **04/12/18 02:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.53	1.0		0		0	0	2.371		10	N
Arsenic	86.5	2.6		0		0	0	86.99	0.5	10	
Beryllium	ND	1.0		0		0	0	0.2365		10	
Cadmium	2.38	1.0		0		0	0	2.375		10	N
Chromium	28.7	2.6		0		0	0	29.06	1.3	10	
Cobalt	17.0	1.0		0		0	0	17.11	0.8	10	
Lead	169	1.0		0		0	0	157.2	7.5	10	
Molybdenum	2.24	1.0		0		0	0	2.216		10	N
Nickel	12.5	1.0		0		0	0	12.52	0.2	10	
Selenium	2.08	1.2		0		0	0	2.172		10	N
Silver	3.45	2.4		0		0	0	3.434		10	N
Uranium	5.76	1.0		0		0	0	5.495	4.6	10	
Vanadium	104	1.0		0		0	0	106.5	2.7	10	

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180411C: 162** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6020**

Analysis Date: **04/12/18 02:14** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	60.8	1.0	238.6	0	26	0	92.9				
Arsenic	168	1.0	194.8	0	86	71.4	105.1				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180411C: 162** SampType: **Laboratory Control Sample** Lab ID: **LCS-41056** Method: **SW6020**

Analysis Date: **04/12/18 02:14** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	83.3	1.0	83.1	0	**100**	76.2	108				
Cadmium	102	1.0	98.41	0	**103**	73.9	106.1				
Chromium	103	1.0	116.3	0	**88**	73.5	108.5				
Cobalt	106	1.0	107.4	0	**99**	74.2	105.6				
Lead	102	1.0	104.4	0	**98**	74.4	108.6				
Molybdenum	121	1.0	126.2	0	**96**	66.5	103.1				
Nickel	84.0	1.0	85.68	0	**98**	72.3	105				
Selenium	200	1.0	203.8	0	**98**	71.2	110.2				
Silver	44.3	1.0	41.85	0	**106**	70.8	111.9				
Uranium	99.5	1.0	99.3	0	**100**	80.1	120.1				
Vanadium	97.3	1.0	113.3	0	**86**	67	107				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180411C: 163** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41056** Method: **SW6020**

Analysis Date: **04/12/18 02:16** Units: **mg/kg** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.2	1.0	48.15	0	**104**	80	120				
Arsenic	48.6	1.0	48.15	0	**101**	80	120				
Beryllium	26.0	1.0	24.07	0	**108**	80	120				
Cadmium	25.5	1.0	24.07	0	**106**	80	120				
Chromium	45.3	1.0	48.15	0	**94**	80	120				
Cobalt	48.5	1.0	48.15	0	**101**	80	120				
Lead	49.1	1.0	48.15	0	**102**	80	120				
Molybdenum	48.8	1.0	48.15	0	**101**	80	120				
Nickel	49.8	1.0	48.15	0	**103**	80	120				
Selenium	48.8	1.0	48.15	0	**101**	80	120				
Silver	26.2	1.0	24.07	0	**109**	80	120				
Uranium	48.0	1.0	48.15	0	**100**	80	120				
Vanadium	43.9	1.0	48.15	0	**91**	80	120				

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180411C: 164** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18030366-010APDS1** Method: **SW6020**

Analysis Date: **04/12/18 02:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	29.6	1.0	27.65	2.371	98	75	125				
Arsenic	111	1.0	27.65	86.99	87	75	125				
Beryllium	27.9	1.0	27.65	0.2365	100	75	125				
Cadmium	30.1	1.0	27.65	2.375	100	75	125				
Chromium	52.5	1.0	27.65	29.06	85	75	125				
Cobalt	43.1	1.0	27.65	17.11	94	75	125				
Lead	177	1.0	27.65	157.2		75	125				A
Molybdenum	28.8	1.0	27.65	2.216	96	75	125				
Nickel	39.4	1.0	27.65	12.52	97	75	125				
Selenium	29.9	1.0	27.65	2.172	100	75	125				
Silver	15.0	1.0	11.06	3.434	104	75	125				
Uranium	30.4	1.0	27.65	5.495	90	75	125				
Vanadium	126	1.0	27.65	106.5	71	75	125				S

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICPMS205-H_180411C: 165** SampType: **Sample Matrix Spike** Lab ID: **H18030366-010AMS** Method: **SW6020**

Analysis Date: **04/12/18 02:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.4	1.0	65.32	2.371	75	75	125				
Arsenic	167	1.0	65.32	86.99	123	75	125				
Beryllium	34.4	1.0	32.66	0.2365	105	75	125				
Cadmium	40.4	1.0	32.66	2.375	117	75	125				
Chromium	90.6	1.0	65.32	29.06	94	75	125				
Cobalt	79.5	1.0	65.32	17.11	96	75	125				
Lead	315	1.0	65.32	157.2	242	75	125				S
Molybdenum	69.5	1.0	65.32	2.216	103	75	125				
Nickel	79.4	1.0	65.32	12.52	102	75	125				
Selenium	69.4	1.0	65.32	2.172	103	75	125				
Silver	39.8	1.0	32.66	3.434	111	75	125				
Uranium	68.5	1.0	65.32	5.495	96	75	125				
Vanadium	155	1.0	65.32	106.5	74	75	125				S

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41056

Run ID :Run Order: **ICPMS205-H_180411C: 166** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-010AMSD** Method: **SW6020**

Analysis Date: **04/12/18 02:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/6/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.6	1.0	65.32	2.371	74	75	125	51.43	1.5	20	S
Arsenic	166	1.0	65.32	86.99	121	75	125	167.4	0.8	20	
Beryllium	35.4	1.0	32.66	0.2365	108	75	125	34.41	2.8	20	
Cadmium	40.0	1.0	32.66	2.375	115	75	125	40.44	1.1	20	
Chromium	99.1	1.0	65.32	29.06	107	75	125	90.56	9.0	20	
Cobalt	83.5	1.0	65.32	17.11	102	75	125	79.54	4.8	20	
Lead	325	1.0	65.32	157.2	258	75	125	315.2	3.2	20	S
Molybdenum	69.4	1.0	65.32	2.216	103	75	125	69.5	0.1	20	
Nickel	82.3	1.0	65.32	12.52	107	75	125	79.41	3.6	20	
Selenium	71.6	1.0	65.32	2.172	106	75	125	69.37	3.1	20	
Silver	39.7	1.0	32.66	3.434	111	75	125	39.84	0.5	20	
Uranium	68.6	1.0	65.32	5.495	97	75	125	68.52	0.1	20	
Vanadium	156	1.0	65.32	106.5	76	75	125	154.8	0.8	20	

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: 41079

Run ID :Run Order: **HGCV201-H_180410A: 10** SampType: **Method Blank** Lab ID: **MB-41079** Method: **SW7471B**
Analysis Date: **04/10/18 11:11** Units: **mg/kg** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0001									

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Run ID :Run Order: **HGCV201-H_180410A: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-41079** Method: **SW7471B**
Analysis Date: **04/10/18 11:13** Units: **mg/kg** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.3	0.50	5	0	106	71	126.4				

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Run ID :Run Order: **HGCV201-H_180410A: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41079** Method: **SW7471B**
Analysis Date: **04/10/18 11:15** Units: **mg/kg** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.22	0.50	0.2	0	109	80	120				

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Run ID :Run Order: **HGCV201-H_180410A: 18** SampType: **Sample Matrix Spike** Lab ID: **H18030365-026AMS** Method: **SW7471B**
Analysis Date: **04/10/18 11:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.2	0.50	0.5294	1.475	129	80	120				S

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Run ID :Run Order: **HGCV201-H_180410A: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030365-026AMSD** Method: **SW7471B**
Analysis Date: **04/10/18 11:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **4/9/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.1	0.50	0.5294	1.475	127	80	120	2.157	0.4	20	S

Associated samples: **H18030366-006A, H18030366-009A, H18030366-012A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133339

Run ID :Run Order: **FIA203-HE_180326A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **03/26/18 08:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.05	0.010	1	0	105	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326A: 48** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **03/26/18 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.010	1	0	104	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326A: 49** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **03/26/18 09:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.009	0.007									

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326A: 50** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **03/26/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.008701	100	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **03/26/18 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.498	0.010	0.5	0	100	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133339

Run ID :Run Order: **FIA203-HE_180326A: 106** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **03/26/18 11:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.498	0.010	0.5	0	**100**	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326A: 108** SampType: **Sample Matrix Spike** Lab ID: **H18030366-002DMS** Method: **E353.2**

Analysis Date: **03/26/18 11:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.75	0.011	1	0.7712	**98**	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326A: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-002DMSD** Method: **E353.2**

Analysis Date: **03/26/18 11:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.76	0.011	1	0.7712	**99**	90	110	1.754	**0.3**	10	

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133359

Run ID :Run Order: **FIA203-HE_180326B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **03/26/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.7	0.50	10.3	0	104	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326B: 8** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **03/26/18 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **03/26/18 14:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326B: 24** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **03/26/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.484	0.050	0.5	0	97	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326B: 38** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **03/26/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.486	0.050	0.5	0	97	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133359

Run ID :Run Order: **FIA203-HE_180326B: 41** SampType: **Sample Matrix Spike** Lab ID: **H18030366-002DMS** Method: **E350.1**

Analysis Date: **03/26/18 14:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.937	0.055	1	0.03068	**91**	80	120				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA203-HE_180326B: 42** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-002DMSD** Method: **E350.1**

Analysis Date: **03/26/18 14:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.949	0.055	1	0.03068	**92**	80	120	0.9365	**1.4**	10	

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/26/18 09:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.778	0.10	0.8	0	97	95	105				
Calcium	41.1	1.0	40	0	103	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Potassium	40.5	1.0	40	0	101	95	105				
Sodium	40.4	1.0	40	0	101	95	105				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/26/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.793	0.10	0.8	0	99	95	105				
Calcium	39.9	1.0	40	0	100	95	105				
Magnesium	39.3	1.0	40	0	98	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	40.1	1.0	40	0	100	95	105				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 13** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/26/18 09:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	24.8	1.0	25	0	99	95	105				
Magnesium	24.2	1.0	25	0	97	95	105				
Potassium	24.7	1.0	25	0	99	95	105				
Sodium	24.8	1.0	25	0	99	95	105				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/26/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00363	0.10		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/26/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	481	1.0	500	0	96	80	120				
Magnesium	518	1.0	500	0	104	80	120				
Potassium	-0.0380	1.0		0		0	0				
Sodium	0.0384	1.0		0		0	0				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/26/18 09:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.986	0.10	1	0	99	80	120				
Calcium	476	1.0	500	0	95	80	120				
Magnesium	514	1.0	500	0	103	80	120				
Potassium	20.4	1.0	20	0	102	80	120				
Sodium	20.4	1.0	20	0	102	80	120				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 19** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **03/26/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.003									
Calcium	0.08	0.01									
Magnesium	0.02	0.005									
Potassium	ND	0.05									
Sodium	ND	0.02									

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 20** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **03/26/18 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.10	1	0	99	85	115				
Calcium	49.6	1.0	50	0.07613	99	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 20** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **03/26/18 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	48.8	1.0	50	0.02208	98	85	115				
Potassium	50.2	1.0	50	0	100	85	115				
Sodium	50.3	1.0	50	0	101	85	115				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 116** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/26/18 16:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	99	90	110				
Calcium	24.2	1.0	25	0	97	90	110				
Magnesium	23.7	1.0	25	0	95	90	110				
Potassium	23.8	1.0	25	0	95	90	110				
Sodium	23.9	1.0	25	0	96	90	110				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 128** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/26/18 16:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	99	90	110				
Calcium	24.5	1.0	25	0	98	90	110				
Magnesium	24.0	1.0	25	0	96	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.8	1.0	25	0	99	90	110				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 130** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001BMS2** Method: **E200.7**

Analysis Date: **03/26/18 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.933	0.050	1	0.02198	91	70	130				
Calcium	71.0	1.0	50	17.64	107	70	130				
Magnesium	58.0	1.0	50	5.066	106	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133366

Run ID :Run Order: **ICP2-HE_180326A: 130** SampType: **Sample Matrix Spike** Lab ID: **H18030366-001BMS2** Method: **E200.7**

Analysis Date: **03/26/18 16:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	59.9	1.0	50	4.952	**110**	70	130				
Sodium	63.6	1.0	50	8.516	**110**	70	130				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICP2-HE_180326A: 131** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-001BMSD2** Method: **E200.7**

Analysis Date: **03/26/18 17:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.968	0.050	1	0.02198	**95**	70	130	0.933	**3.7**	20	
Calcium	67.0	1.0	50	17.64	**99**	70	130	71.03	**5.8**	20	
Magnesium	54.2	1.0	50	5.066	**98**	70	130	57.98	**6.8**	20	
Potassium	58.0	1.0	50	4.952	**106**	70	130	59.87	**3.1**	20	
Sodium	61.9	1.0	50	8.516	**107**	70	130	63.55	**2.7**	20	

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/26/18 17:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.309	0.10	0.3	0	**103**	90	110				
Antimony	0.0601	0.050	0.06	0	**100**	90	110				
Barium	0.0600	0.10	0.06	0	**100**	90	110				
Beryllium	0.0276	0.0010	0.03	0	**92**	90	110				
Cadmium	0.0300	0.0010	0.03	0	**100**	90	110				
Chromium	0.0602	0.010	0.06	0	**100**	90	110				
Cobalt	0.0610	0.010	0.06	0	**102**	90	110				
Copper	0.0616	0.010	0.06	0	**103**	90	110				
Iron	0.303	0.020	0.3	0	**101**	90	110				
Lead	0.0593	0.010	0.06	0	**99**	90	110				
Manganese	0.309	0.010	0.3	0	**103**	90	110				
Molybdenum	0.0578	0.0050	0.06	0	**96**	90	110				
Nickel	0.0615	0.010	0.06	0	**103**	90	110				
Selenium	0.0596	0.0050	0.06	0	**99**	90	110				
Silver	0.0301	0.0050	0.03	0	**100**	90	110				
Uranium	0.0551	0.0010	0.06	0	**92**	90	110				
Vanadium	0.0593	0.10	0.06	0	**99**	90	110				
Zinc	0.0624	0.010	0.06	0	**104**	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/26/18 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.9	0.10	40	0	**97**	70	130				
Antimony	4.73E-05	0.050		0							
Barium	4.57E-05	0.10		0							
Beryllium	2.15E-05	0.0010		0							
Cadmium	0.000116	0.0010		0							
Chromium	0.00120	0.010		0							
Cobalt	1.94E-05	0.010		0							
Copper	8.07E-05	0.010		0							
Iron	98.0	0.020	100	0	**98**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/26/18 17:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6.52E-05	0.010		0							
Manganese	0.000276	0.010		0							
Molybdenum	0.793	0.0050	0.8	0	99	70	130				
Nickel	3.19E-05	0.010		0							
Selenium	4.98E-05	0.0050		0							
Silver	6.10E-05	0.0050		0							
Uranium	1.65E-05	0.0010		0							
Vanadium	-9.40E-05	0.10		0							
Zinc	0.000163	0.010		0							

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/26/18 17:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.6	0.10	40	0	97	70	130				
Antimony	7.66E-06	0.050		0		0	0				
Barium	3.89E-05	0.10		0		0	0				
Beryllium	6.17E-05	0.0010		0		0	0				
Cadmium	0.00985	0.0010	0.01	0	98	70	130				
Chromium	0.0207	0.010	0.02	0	103	70	130				
Cobalt	0.0196	0.010	0.02	0	98	70	130				
Copper	0.0192	0.010	0.02	0	96	70	130				
Iron	97.4	0.020	100	0	97	70	130				
Lead	4.80E-05	0.010		0		0	0				
Manganese	0.0198	0.010	0.02	0	99	70	130				
Molybdenum	0.788	0.0050	0.8	0	99	70	130				
Nickel	0.0192	0.010	0.02	0	96	70	130				
Selenium	0.00994	0.0050	0.01	0	99	70	130				
Silver	0.0192	0.0050	0.02	0	96	70	130				
Uranium	5.33E-06	0.0010		0		0	0				
Vanadium	0.0196	0.10	0.02	0	98	70	130				
Zinc	0.00973	0.010	0.01	0	97	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/26/18 17:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **03/26/18 17:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0007									
Antimony	ND	2E-05									
Barium	ND	2E-05									
Beryllium	ND	8E-05									
Cadmium	ND	2E-05									
Chromium	ND	3E-05									
Cobalt	ND	2E-05									
Copper	ND	4E-05									
Iron	ND	0.002									
Lead	ND	1E-05									
Manganese	4E-05	3E-05									
Molybdenum	ND	2E-05									
Nickel	ND	3E-05									
Selenium	ND	3E-05									
Silver	ND	8E-06									
Uranium	ND	3E-06									
Vanadium	ND	7E-05									
Zinc	ND	0.0001									

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180326C: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/26/18 17:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0499	0.10	0.05	0	**100**	85	115				
Antimony	0.0486	0.050	0.05	0	**97**	85	115				
Barium	0.0488	0.10	0.05	0	**98**	85	115				
Beryllium	0.0440	0.0010	0.05	0	**88**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/26/18 17:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0481	0.0010	0.05	0	96	85	115				
Chromium	0.0481	0.010	0.05	0	96	85	115				
Cobalt	0.0487	0.010	0.05	0	97	85	115				
Copper	0.0495	0.010	0.05	0	99	85	115				
Iron	0.151	0.020	0.15	0	101	85	115				
Lead	0.0476	0.010	0.05	0	95	85	115				
Manganese	0.0493	0.010	0.05	0.00003641	98	85	115				
Molybdenum	0.0463	0.0050	0.05	0	93	85	115				
Nickel	0.0492	0.010	0.05	0	98	85	115				
Selenium	0.0475	0.0050	0.05	0	95	85	115				
Silver	0.0196	0.0050	0.02	0	98	85	115				
Uranium	0.0450	0.0010	0.05	0	90	85	115				
Vanadium	0.0472	0.10	0.05	0	94	85	115				
Zinc	0.0500	0.010	0.05	0	100	85	115				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180326C: 109** SampType: **Sample Matrix Spike** Lab ID: **H18030363-001BMS** Method: **E200.8**

Analysis Date: **03/26/18 20:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0637	0.030	0.05	0.01105	105	70	130				
Antimony	0.0534	0.0010	0.05	0.00001823	107	70	130				
Barium	0.111	0.050	0.05	0.06367	95	70	130				
Beryllium	0.0503	0.0010	0.05	0	101	70	130				
Cadmium	0.0483	0.0010	0.05	0	97	70	130				
Chromium	0.0468	0.0050	0.05	0.00009607	93	70	130				
Cobalt	0.0447	0.0050	0.05	0	89	70	130				
Copper	0.0555	0.0050	0.05	0.01117	89	70	130				
Iron	0.193	0.020	0.15	0.05193	94	70	130				
Lead	0.0513	0.0010	0.05	0.003153	96	70	130				
Manganese	0.0498	0.0010	0.05	0.00219	95	70	130				
Molybdenum	0.0486	0.0010	0.05	0.000666	96	70	130				
Nickel	0.0439	0.0050	0.05	0.00007098	88	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 109** SampType: **Sample Matrix Spike** Lab ID: **H18030363-001BMS** Method: **E200.8**

Analysis Date: **03/26/18 20:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0484	0.0010	0.05	0.00006217	97	70	130				
Silver	0.0187	0.0010	0.02	0	94	70	130				
Uranium	0.0484	0.00030	0.05	0.001811	93	70	130				
Vanadium	0.0506	0.010	0.05	0.002846	96	70	130				
Zinc	0.0702	0.010	0.05	0.0193	102	70	130				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180326C: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030363-001BMSD** Method: **E200.8**

Analysis Date: **03/26/18 20:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0587	0.030	0.05	0.01105	95	70	130	0.06368	8.1	20	
Antimony	0.0527	0.0010	0.05	0.00001823	105	70	130	0.05344	1.4	20	
Barium	0.109	0.050	0.05	0.06367	91	70	130	0.1114	1.8	20	
Beryllium	0.0508	0.0010	0.05	0	102	70	130	0.05028	1.0	20	
Cadmium	0.0477	0.0010	0.05	0	95	70	130	0.0483	1.2	20	
Chromium	0.0464	0.0050	0.05	0.00009607	93	70	130	0.0468	0.8	20	
Cobalt	0.0438	0.0050	0.05	0	88	70	130	0.04466	2.0	20	
Copper	0.0541	0.0050	0.05	0.01117	86	70	130	0.05553	2.6	20	
Iron	0.189	0.020	0.15	0.05193	91	70	130	0.1927	2.2	20	
Lead	0.0504	0.0010	0.05	0.003153	94	70	130	0.05126	1.7	20	
Manganese	0.0486	0.0010	0.05	0.00219	93	70	130	0.0498	2.5	20	
Molybdenum	0.0479	0.0010	0.05	0.000666	95	70	130	0.04865	1.5	20	
Nickel	0.0431	0.0050	0.05	0.00007098	86	70	130	0.04391	1.9	20	
Selenium	0.0480	0.0010	0.05	0.00006217	96	70	130	0.04837	0.8	20	
Silver	0.0183	0.0010	0.02	0	92	70	130	0.0187	2.1	20	
Uranium	0.0474	0.00030	0.05	0.001811	91	70	130	0.04844	2.2	20	
Vanadium	0.0502	0.010	0.05	0.002846	95	70	130	0.05064	0.8	20	
Zinc	0.0701	0.010	0.05	0.0193	102	70	130	0.07017	0.1	20	

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 123** SampType: **Sample Matrix Spike** Lab ID: **H18030366-003BMS** Method: **E200.8**

Analysis Date: **03/26/18 21:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0519	0.030	0.05	0.001733	100	70	130				
Antimony	0.0527	0.0010	0.05	0.00005835	105	70	130				
Barium	0.0708	0.050	0.05	0.02328	95	70	130				
Beryllium	0.0508	0.0010	0.05	0	102	70	130				
Cadmium	0.0482	0.0010	0.05	0	96	70	130				
Chromium	0.0467	0.0050	0.05	0.00005844	93	70	130				
Cobalt	0.0461	0.0050	0.05	0.0012	90	70	130				
Copper	0.0450	0.0050	0.05	0.0004904	89	70	130				
Iron	0.157	0.020	0.15	0.01508	94	70	130				
Lead	0.0477	0.0010	0.05	0	95	70	130				
Manganese	0.0490	0.0010	0.05	0.001489	95	70	130				
Molybdenum	0.0477	0.0010	0.05	0.0003346	95	70	130				
Nickel	0.0443	0.0050	0.05	0.00006018	88	70	130				
Selenium	0.0488	0.0010	0.05	0.0005858	96	70	130				
Silver	0.0187	0.0010	0.02	0	93	70	130				
Uranium	0.0465	0.00030	0.05	0.0008768	91	70	130				
Vanadium	0.0483	0.010	0.05	0.0009527	95	70	130				
Zinc	0.0548	0.010	0.05	0.003669	102	70	130				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180326C: 124** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-003BMSD** Method: **E200.8**

Analysis Date: **03/26/18 21:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0532	0.030	0.05	0.001733	103	70	130	0.05187	2.5	20	
Antimony	0.0526	0.0010	0.05	0.00005835	105	70	130	0.05271	0.2	20	
Barium	0.0712	0.050	0.05	0.02328	96	70	130	0.07079	0.5	20	
Beryllium	0.0517	0.0010	0.05	0	103	70	130	0.05076	1.8	20	
Cadmium	0.0485	0.0010	0.05	0	97	70	130	0.04822	0.6	20	
Chromium	0.0466	0.0050	0.05	0.00005844	93	70	130	0.04669	0.1	20	
Cobalt	0.0461	0.0050	0.05	0.0012	90	70	130	0.04607	0.0	20	
Copper	0.0452	0.0050	0.05	0.0004904	89	70	130	0.04499	0.4	20	
Iron	0.156	0.020	0.15	0.01508	94	70	130	0.1566	0.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 124** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-003BMSD** Method: **E200.8**

Analysis Date: **03/26/18 21:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0478	0.0010	0.05	0	96	70	130	0.04771	0.1	20	
Manganese	0.0490	0.0010	0.05	0.001489	95	70	130	0.049	0.0	20	
Molybdenum	0.0477	0.0010	0.05	0.0003346	95	70	130	0.0477	0.1	20	
Nickel	0.0442	0.0050	0.05	0.00006018	88	70	130	0.0443	0.3	20	
Selenium	0.0485	0.0010	0.05	0.0005858	96	70	130	0.04876	0.6	20	
Silver	0.0187	0.0010	0.02	0	93	70	130	0.01869	0.0	20	
Uranium	0.0464	0.00030	0.05	0.0008768	91	70	130	0.04653	0.3	20	
Vanadium	0.0483	0.010	0.05	0.0009527	95	70	130	0.04827	0.0	20	
Zinc	0.0547	0.010	0.05	0.003669	102	70	130	0.05476	0.1	20	

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180326C: 293** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 03:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.309	0.10	0.3	0	103	90	110				
Antimony	0.0601	0.050	0.06	0	100	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Beryllium	0.0301	0.0010	0.03	0	100	90	110				
Cadmium	0.0300	0.0010	0.03	0	100	90	110				
Chromium	0.0608	0.010	0.06	0	101	90	110				
Cobalt	0.0614	0.010	0.06	0	102	90	110				
Copper	0.0620	0.010	0.06	0	103	90	110				
Iron	0.298	0.020	0.3	0	100	90	110				
Lead	0.0595	0.010	0.06	0	99	90	110				
Manganese	0.308	0.010	0.3	0	103	90	110				
Molybdenum	0.0592	0.0050	0.06	0	99	90	110				
Nickel	0.0622	0.010	0.06	0	104	90	110				
Selenium	0.0599	0.0050	0.06	0	100	90	110				
Silver	0.0304	0.0050	0.03	0	101	90	110				
Uranium	0.0558	0.0010	0.06	0	93	90	110				
Vanadium	0.0596	0.10	0.06	0	99	90	110				
Zinc	0.0624	0.010	0.06	0	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 293** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 03:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 294** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 03:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.8	0.10	40	0	97	70	130				
Antimony	6.69E-05	0.050		0							
Barium	5.36E-05	0.10		0							
Beryllium	9.10E-05	0.0010		0							
Cadmium	9.69E-05	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	1.52E-05	0.010		0							
Copper	8.36E-05	0.010		0							
Iron	97.9	0.020	100	0	98	70	130				
Lead	6.14E-05	0.010		0							
Manganese	0.000209	0.010		0							
Molybdenum	0.798	0.0050	0.8	0	100	70	130				
Nickel	4.35E-05	0.010		0							
Selenium	4.93E-05	0.0050		0							
Silver	7.06E-05	0.0050		0							
Uranium	1.34E-05	0.0010		0							
Vanadium	-0.000178	0.10		0							
Zinc	0.000270	0.010		0							

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180326C: 295** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 03:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.6	0.10	40	0	97	70	130				
Antimony	-3.57E-05	0.050		0		0	0				
Barium	4.01E-05	0.10		0		0	0				
Beryllium	9.03E-05	0.0010		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133370

Run ID :Run Order: **ICPMS205-H_180326C: 295** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 03:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.00999	0.0010	0.01	0	**100**	70	130				
Chromium	0.0206	0.010	0.02	0	**103**	70	130				
Cobalt	0.0195	0.010	0.02	0	**98**	70	130				
Copper	0.0193	0.010	0.02	0	**97**	70	130				
Iron	97.7	0.020	100	0	**98**	70	130				
Lead	4.44E-05	0.010		0		0	0				
Manganese	0.0198	0.010	0.02	0	**99**	70	130				
Molybdenum	0.787	0.0050	0.8	0	**98**	70	130				
Nickel	0.0197	0.010	0.02	0	**98**	70	130				
Selenium	0.0100	0.0050	0.01	0	**100**	70	130				
Silver	0.0197	0.0050	0.02	0	**98**	70	130				
Uranium	3.20E-06	0.0010		0		0	0				
Vanadium	0.0194	0.10	0.02	0	**97**	70	130				
Zinc	0.0101	0.010	0.01	0	**101**	70	130				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133372

Run ID :Run Order: **PHSC_101-H_180327A: 39** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **03/27/18 10:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	0.7									

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **PHSC_101-H_180327A: 40** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **03/27/18 10:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	560	4.0	600	1.92	**93**	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **PHSC_101-H_180327A: 43** SampType: **Sample Duplicate** Lab ID: **H18030365-062ADUP** Method: **A2320 B**

Analysis Date: **03/27/18 10:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	100	4.0		0				104.2	**0.5**	10	
Bicarbonate as HCO3	130	4.0		0				126.5	**0.5**	10	

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **PHSC_101-H_180327A: 73** SampType: **Sample Duplicate** Lab ID: **H18030381-001ADUP** Method: **A2320 B**

Analysis Date: **03/27/18 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	160	4.0		0				161.8	**0.1**	10	
Bicarbonate as HCO3	200	4.0		0				196.8	**0.1**	10	

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133379

Run ID :Run Order: **IC METROHM_180326A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **03/26/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.01	0.003									
Sulfate	ND	0.01									

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **IC METROHM_180326A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **03/26/18 11:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	104	1.0	100	0	104	90	110				
Sulfate	418	1.0	400	0	105	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **IC METROHM_180326A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **03/26/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.8	1.0	25	0.01	95	90	110				
Sulfate	96.2	1.0	100	0	96	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **IC METROHM_180326A: 48** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **03/26/18 23:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.0	1.0	50	0	106	90	110				
Sulfate	212	1.0	200	0	106	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **IC METROHM_180326A: 58** SampType: **Sample Matrix Spike** Lab ID: **H18030366-003AMS** Method: **E300.0**
Analysis Date: **03/27/18 01:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.3	1.0	25	0.882	98	90	110				
Sulfate	124	1.0	100	25.54	98	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133379

Run ID :Run Order: **IC METROHM_180326A: 58** SampType: **Sample Matrix Spike** Lab ID: **H18030366-003AMS** Method: **E300.0**

Analysis Date: **03/27/18 01:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **IC METROHM_180326A: 59** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030366-003AMSD** Method: **E300.0**

Analysis Date: **03/27/18 02:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.5	1.0	25	0.882	**98**	90	110	25.28	**0.7**	20	
Sulfate	124	1.0	100	25.54	**99**	90	110	123.9	**0.5**	20	

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **03/27/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0604	0.0050	0.06	0	101	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **03/27/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.44E-05	0.0050		0							
Cadmium	0.000116	0.0010		0							

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0105	0.0050	0.01	0	105	70	130				
Cadmium	0.0100	0.0010	0.01	0	100	70	130				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **03/27/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	2E-05									
Cadmium	ND	2E-05									

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180327A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **03/27/18 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0478	0.0050	0.05	0	96	85	115				
Cadmium	0.0485	0.0010	0.05	0	97	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **03/27/18 12:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180327A: 78** SampType: **Sample Matrix Spike** Lab ID: **H18030363-001BMS** Method: **E200.8**
Analysis Date: **03/27/18 14:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0485	0.0010	0.05	0.001194	95	70	130				
Cadmium	0.0471	0.0010	0.05	0	94	70	130				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180327A: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18030363-001BMSD** Method: **E200.8**
Analysis Date: **03/27/18 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0479	0.0010	0.05	0.001194	93	70	130	0.04853	1.2	20	
Cadmium	0.0465	0.0010	0.05	0	93	70	130	0.04713	1.3	20	

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180327A: 224** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **03/27/18 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0614	0.0050	0.06	0	102	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 225** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/27/18 19:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.86E-05	0.0050		0							
Cadmium	0.000105	0.0010		0							

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 226** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/27/18 19:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0105	0.0050	0.01	0	105	70	130				
Cadmium	0.00986	0.0010	0.01	0	99	70	130				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 232** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **03/27/18 20:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0487	0.0050	0.05	0	97	85	115				
Cadmium	0.0484	0.0010	0.05	0	97	85	115				

Associated samples: **H18030366-001B, H18030366-002B, H18030366-003B**

Run ID :Run Order: **ICPMS205-H_180327A: 284** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **03/27/18 22:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0600	0.0050	0.06	0	100	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 285** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **03/27/18 22:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.55E-05	0.0050		0							
Cadmium	0.000116	0.0010		0							

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Run ID :Run Order: **ICPMS205-H_180327A: 286** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **03/27/18 22:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0105	0.0050	0.01	0	105	70	130				
Cadmium	0.0101	0.0010	0.01	0	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133388

Run ID :Run Order: **ICPMS205-H_180327A: 286** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **03/27/18 22:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133390

Run ID :Run Order: **ICP2-HE_180327A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/27/18 09:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	**100**	95	105				
Boron	0.780	0.10	0.8	0	**98**	95	105				
Calcium	39.7	1.0	40	0	**99**	95	105				
Magnesium	39.1	1.0	40	0	**98**	95	105				
Potassium	39.7	1.0	40	0	**99**	95	105				
Sodium	39.6	1.0	40	0	**99**	95	105				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **03/27/18 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.04	0.10	4	0	**101**	95	105				
Boron	0.812	0.10	0.8	0	**102**	95	105				
Calcium	39.8	1.0	40	0	**100**	95	105				
Magnesium	39.4	1.0	40	0	**99**	95	105				
Potassium	39.3	1.0	40	0	**98**	95	105				
Sodium	39.3	1.0	40	0	**98**	95	105				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 13** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **03/27/18 10:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.10	2.5	0	**99**	95	105				
Boron	2.54	0.10	2.5	0	**101**	95	105				
Calcium	25.0	1.0	25	0	**100**	95	105				
Magnesium	24.7	1.0	25	0	**99**	95	105				
Potassium	23.9	1.0	25	0	**96**	95	105				
Sodium	24.0	1.0	25	0	**96**	95	105				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133390

Run ID :Run Order: **ICP2-HE_180327A: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **03/27/18 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	0.10	500	0	**104**	80	120				
Boron	0.00328	0.10		0		0	0				
Calcium	468	1.0	500	0	**94**	80	120				
Magnesium	509	1.0	500	0	**102**	80	120				
Potassium	-0.0728	1.0		0		0	0				
Sodium	0.00259	1.0		0		0	0				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **03/27/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	**106**	80	120				
Boron	0.986	0.10	1	0	**99**	80	120				
Calcium	470	1.0	500	0	**94**	80	120				
Magnesium	511	1.0	500	0	**102**	80	120				
Potassium	20.0	1.0	20	0	**100**	80	120				
Sodium	20.2	1.0	20	0	**101**	80	120				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Run ID :Run Order: **ICP2-HE_180327A: 104** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/27/18 16:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.10	2.5	0	**101**	90	110				
Boron	2.50	0.10	2.5	0	**100**	90	110				
Calcium	25.1	1.0	25	0	**100**	90	110				
Magnesium	24.8	1.0	25	0	**99**	90	110				
Potassium	25.0	1.0	25	0	**100**	90	110				
Sodium	25.0	1.0	25	0	**100**	90	110				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133390

Run ID :Run Order: **ICP2-HE_180327A: 116** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **03/27/18 16:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	**101**	90	110				
Boron	2.45	0.10	2.5	0	**98**	90	110				
Calcium	24.6	1.0	25	0	**98**	90	110				
Magnesium	24.0	1.0	25	0	**96**	90	110				
Potassium	24.8	1.0	25	0	**99**	90	110				
Sodium	24.9	1.0	25	0	**100**	90	110				

Associated samples: **H18030366-001C, H18030366-002C, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133402

Run ID :Run Order: **FIA202-HE_180327A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **03/27/18 13:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.250	0.010	0.25	0	100	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **03/27/18 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.000470	0.010		0		0	0				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **03/27/18 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0968	0.010	0.1	0	97	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 93** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **03/27/18 15:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.253	0.010	0.25	0	101	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Run ID :Run Order: **FIA202-HE_180327A: 94** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **03/27/18 15:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0947	0.010	0.1	0	95	90	110				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133402

Run ID :Run Order: **FIA202-HE_180327A: 95** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **03/27/18 15:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00166	0.010		0		0	0				

Associated samples: **H18030366-001D, H18030366-002D, H18030366-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133421

Run ID :Run Order: **HGCV202-H_180328A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **03/29/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	95	105				

Associated samples: **H18030366-001B, H18030366-001C, H18030366-002B, H18030366-002C, H18030366-003B, H18030366-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133496

Run ID :Run Order: **FIA203-HE_180330A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **03/30/18 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.511	0.10	0.5	0	102	90	110				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **FIA203-HE_180330A: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **03/30/18 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0128	0.10		0		0	0				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133541

Run ID :Run Order: **ICPMS205-H_180402B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **04/02/18 17:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0606	0.050	0.06	0	101	90	110				

Associated samples: **H18030366-002C**

Run ID :Run Order: **ICPMS205-H_180402B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **04/02/18 17:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	-1.67E-05	0.050		0							

Associated samples: **H18030366-002C**

Run ID :Run Order: **ICPMS205-H_180402B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **04/02/18 17:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	-0.000155	0.050		0		0	0				

Associated samples: **H18030366-002C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133670

Run ID :Run Order: **SOIL DRYING OVEN 2_180406A: 2** SampType: **Sample Duplicate** Lab ID: **H18030366-011ADUP** Method: **D2974**

Analysis Date: **04/06/18 09:21** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	19.7	0.20		0				19.32	**1.9**	20	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-008A, H18030366-009A, H18030366-010A, H18030366-011A, H18030366-012A, H18030366-013A, H18030366-014A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180406A: 3** SampType: **Sample Duplicate** Lab ID: **H18030366-014ADUP** Method: **D2974**

Analysis Date: **04/06/18 09:21** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	18.6	0.20		0				18.8	**1.1**	20	

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-008A, H18030366-009A, H18030366-010A, H18030366-011A, H18030366-012A, H18030366-013A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133704

Run ID :Run Order: **ICP2-HE_180406B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/06/18 10:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	102	90	110				
Barium	0.797	0.10	0.8	0	100	90	110				
Boron	0.807	0.10	0.8	0	101	90	110				
Copper	0.799	0.010	0.8	0	100	90	110				
Iron	4.04	0.030	4	0	101	90	110				
Lead	0.820	0.050	0.8	0	103	90	110				
Manganese	4.00	0.010	4	0	100	90	110				
Zinc	0.797	0.010	0.8	0	100	90	110				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-008A, H18030366-009A, H18030366-011A, H18030366-012A, H18030366-013A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/06/18 10:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	0.10	500	0	104	80	120				
Barium	0.000130	0.10		0		0	0				
Boron	0.00472	0.10		0		0	0				
Copper	0.000810	0.010		0		0	0				
Iron	185	0.030	200	0	93	80	120				
Lead	0.0261	0.050		0		0	0				
Manganese	-0.00506	0.010		0		0	0				
Zinc	0.00107	0.010		0		0	0				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-008A, H18030366-009A, H18030366-011A, H18030366-012A, H18030366-013A, H18030366-014A**

Run ID :Run Order: **ICP2-HE_180406B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/06/18 10:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524	0.10	500	0	105	80	120				
Barium	0.491	0.10	0.5	0	98	80	120				
Boron	0.973	0.10	1	0	97	80	120				
Copper	0.498	0.010	0.5	0	100	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133704

Run ID :Run Order: **ICP2-HE_180406B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/06/18 10:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	186	0.030	200	0	**93**	80	120				
Lead	0.909	0.050	1	0	**91**	80	120				
Manganese	0.469	0.010	0.5	0	**94**	80	120				
Zinc	0.960	0.010	1	0	**96**	80	120				

Associated samples: **H18030366-004A, H18030366-005A, H18030366-006A, H18030366-007A, H18030366-008A, H18030366-009A, H18030366-011A, H18030366-012A, H18030366-013A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133753

Run ID :Run Order: **ICP2-HE_180409B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/09/18 10:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.04	0.10	4	0	**101**	90	110				
Barium	0.796	0.10	0.8	0	**99**	90	110				
Boron	0.796	0.10	0.8	0	**99**	90	110				
Copper	0.794	0.010	0.8	0	**99**	90	110				
Manganese	3.98	0.010	4	0	**100**	90	110				
Zinc	0.795	0.010	0.8	0	**99**	90	110				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/09/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	525	0.10	500	0	**105**	80	120				
Barium	-0.000300	0.10		0		0	0				
Boron	0.00415	0.10		0		0	0				
Copper	-7.00E-05	0.010		0		0	0				
Manganese	-0.00441	0.010		0		0	0				
Zinc	0.00251	0.010		0		0	0				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180409B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/09/18 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524	0.10	500	0	**105**	80	120				
Barium	0.493	0.10	0.5	0	**99**	80	120				
Boron	0.982	0.10	1	0	**98**	80	120				
Copper	0.506	0.010	0.5	0	**101**	80	120				
Manganese	0.474	0.010	0.5	0	**95**	80	120				
Zinc	0.973	0.010	1	0	**97**	80	120				

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133782

Run ID :Run Order: **ICPMS205-H_180410B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/10/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0598	0.0010	0.06	0	**100**	90	110				
Arsenic	0.0605	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0328	0.0010	0.03	0	**109**	90	110				
Cadmium	0.0299	0.0010	0.03	0	**100**	90	110				
Chromium	0.0609	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0598	0.0010	0.06	0	**100**	90	110				
Lead	0.0604	0.0010	0.06	0	**101**	90	110				
Molybdenum	0.0576	0.0010	0.06	0	**96**	90	110				
Nickel	0.0615	0.0010	0.06	0	**102**	90	110				
Selenium	0.0600	0.0010	0.06	0	**100**	90	110				
Silver	0.0296	0.0010	0.03	0	**99**	90	110				
Uranium	0.0567	0.00030	0.06	0	**95**	90	110				
Vanadium	0.0601	0.0010	0.06	0	**100**	90	110				

Associated samples: **H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-010A, H18030366-012A, H18030366-013A**

Run ID :Run Order: **ICPMS205-H_180410B: 173** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/10/18 20:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0605	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0603	0.0010	0.06	0	**101**	90	110				
Beryllium	0.0317	0.0010	0.03	0	**106**	90	110				
Cadmium	0.0304	0.0010	0.03	0	**101**	90	110				
Chromium	0.0606	0.0010	0.06	0	**101**	90	110				
Cobalt	0.0600	0.0010	0.06	0	**100**	90	110				
Lead	0.0596	0.0010	0.06	0	**99**	90	110				
Molybdenum	0.0578	0.0010	0.06	0	**96**	90	110				
Nickel	0.0620	0.0010	0.06	0	**103**	90	110				
Selenium	0.0620	0.0010	0.06	0	**103**	90	110				
Silver	0.0301	0.0010	0.03	0	**100**	90	110				
Uranium	0.0576	0.00030	0.06	0	**96**	90	110				
Vanadium	0.0599	0.0010	0.06	0	**100**	90	110				

Associated samples: **H18030366-005A, H18030366-006A, H18030366-007A, H18030366-009A, H18030366-010A, H18030366-012A, H18030366-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133885

Run ID :Run Order: **ICPMS205-H_180411C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **04/11/18 20:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0605	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0609	0.0010	0.06	0	**102**	90	110				
Beryllium	0.0304	0.0010	0.03	0	**101**	90	110				
Cadmium	0.0306	0.0010	0.03	0	**102**	90	110				
Chromium	0.0602	0.0010	0.06	0	**100**	90	110				
Cobalt	0.0606	0.0010	0.06	0	**101**	90	110				
Lead	0.0602	0.0010	0.06	0	**100**	90	110				
Molybdenum	0.0588	0.0010	0.06	0	**98**	90	110				
Nickel	0.0613	0.0010	0.06	0	**102**	90	110				
Selenium	0.0604	0.0010	0.06	0	**101**	90	110				
Silver	0.0302	0.0010	0.03	0	**101**	90	110				
Uranium	0.0572	0.00030	0.06	0	**95**	90	110				
Vanadium	0.0586	0.0010	0.06	0	**98**	90	110				

Associated samples: **H18030366-004A, H18030366-008A, H18030366-011A, H18030366-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: R133942

Run ID :Run Order: **ICP2-HE_180416A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **04/16/18 09:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.01	0.030	4	0	100	90	110				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **04/16/18 09:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	186	0.030	200	0	93	80	120				

Associated samples: **H18030366-010A**

Run ID :Run Order: **ICP2-HE_180416A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **04/16/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187	0.030	200	0	93	80	120				

Associated samples: **H18030366-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18030366
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Apr-18*

BatchID: TSS180326A

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 4** SampType: **Method Blank** Lab ID: **MB-49_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 5** SampType: **Laboratory Control Sample** Lab ID: **LCS-50_180326A** Method: **A2540 D**

Analysis Date: **03/26/18 14:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	90.0	10	100	0	90	80	120				

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180326A: 5** SampType: **Sample Duplicate** Lab ID: **H18030365-013ADUP** Method: **A2540 D**

Analysis Date: **03/26/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	17.0	10		0				18.6	9.0	5	R

Associated samples: **H18030366-001A, H18030366-002A, H18030366-003A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18030366

Login completed by: Jessica C. Smith
Date Received: 3/23/2018
Reviewed by: BL2000\rtooke
Received by: RAT
Reviewed Date: 3/30/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 4.8 °C, Cooler 2 at 4.7 °C and Cooler 3 at 4.2 °C. On Ice. Box 1 was received at 7.7 °C and Box 2 at 8.1 °C. No Ice. Time on jar in sample set SLAG-01 is 1540 -Time on COC is 1545. Used time from COC. JCS 03/23/2018

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company/Name	NRDP/DOJ
Contact	Greg Mullen
Phone	(404) 442-0228
Mailing Address	1501 E. Lockey
City, State, Zip	Helena, MT 59620
Email	
Receive Invoice	☐Hard Copy ▣Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ▣Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight; sieve sediment samples SS-04 and SLAG-01 only for < 0.063 mm size class, analyze only for Total As, Cd, Cu, Pb and Zn

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ▣ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
C1	1 SS-01	3-22-18	1645	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 4.8
C1	2 SS-05A	3-22-18	1530	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 4.7
C1	3 SS-15G	3-21-18	1315	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 4.2
B1	4 SS-04	3-22-18	1630	1	S									✓			B1 7.7
B1	5 SLAG-01	3-22-18	1545	1	S									✓			B2 8.1
B1	6 SS-01	3-22-18	1645	1	S									✓			H18030366
B1	7 SS-05A	3-22-18	1530	1	S									✓			
B2	8 SS-15G	3-21-18	1315	1	S									✓			
	9																
	10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Erich Weber	3-23-18 12:44				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Tooke	3/23/18 12:44	Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Hand	3x	Y (N) C B	Y N	see com °C	(Y) N boxes no	(Y) N boxes no	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

APPENDIX B-2

Second Quarter Results

ANALYTICAL SUMMARY REPORT

June 27, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18060190 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 14 samples for MT DEQ-Federal Superfund on 6/8/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18060190-001	SS-01	06/07/18 17:15	06/08/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Suspended
H18060190-002	SS-05A	06/07/18 16:00	06/08/18	Surface Water	Same As Above
H18060190-003	SS-15G	06/07/18 13:00	06/08/18	Surface Water	Same As Above
H18060190-004	SS-04 Sediment Sieve <0.063 mm	06/07/18 16:30	06/08/18	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Total Metals Digestion by SW3050B Sieve Analysis, Wet Soil Preparation USDA1
H18060190-005	SLAG-01 Sediment Sieve <0.063 mm	06/07/18 16:15	06/08/18	Sediment	Same As Above
H18060190-006	SS-01 Sediment Sieve <0.063 mm	06/07/18 17:15	06/08/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet
H18060190-007	SS-01 Sediment Sieve 1mm-0.063mm	06/07/18 17:15	06/08/18	Sediment	Same As Above
H18060190-008	SS-01 Sediment Sieve 2mm-1mm	06/07/18 17:15	06/08/18	Sediment	Same As Above
H18060190-009	SS-05A Sediment Sieve <0.063mm	06/07/18 16:00	06/08/18	Sediment	Same As Above
H18060190-010	SS-05A Sediment Sieve 1mm-0.063mm	06/07/18 16:00	06/08/18	Sediment	Same As Above
H18060190-011	SS-05 Sediment Sieve 2mm-1mm	06/07/18 16:00	06/08/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18060190-012	SS-15G Sediment Sieve <0.063	06/06/18 13:00	06/08/18	Sediment	Same As Above
H18060190-013	SS-15G Sediment Sieve 1mm-0.063mm	06/06/18 13:00	06/08/18	Sediment	Same As Above
H18060190-014	SS-15G Sediment Sieve 2mm-1mm	06/06/18 13:00	06/08/18	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: Silver Bow Creek SSTOU Monitoring
Work Order: H18060190

Report Date: 06/27/18

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the calculated method detection limit (MDL). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060190-001
Collection Date: 06/07/18 17:15
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	6	mg/L	D	4	0.3	A2540 D	06/11/18 13:35 / SR			l24 (14410200)_180611A	10	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	67	mg/L		4	2	A2320 B	06/11/18 17:12 / SR			PHSC_101-H_180611A	137	R135427
Bicarbonate as HCO3	81	mg/L		4	2	A2320 B	06/11/18 17:12 / SR			PHSC_101-H_180611A	137	R135427
Chloride	6	mg/L		1	0.009	E300.0	06/12/18 10:02 / SR			IC METROHM_180611B	53	R135509
Sulfate	10	mg/L		1	0.01	E300.0	06/12/18 10:02 / SR			IC METROHM_180611B	53	R135509
Hardness as CaCO3	75	mg/L		1	1	A2340 B	06/11/18 20:42 / SR			CALC_180614A	465	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:12 / km			FIA203-HE_180613A	14	R135516
Nitrogen, Nitrate+Nitrite as N	0.13	mg/L		0.02	0.009	E353.2	06/11/18 11:31 / km			FIA203-HE_180611B	115	R135443
Nitrogen, Total	0.56	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:47 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	23	41806
Phosphorus, Total as P	0.156	mg/L		0.003	0.0006	E365.1	06/13/18 12:47 / cm	06/13/18 10:57	E365.1	FIA202-HE_180613B	37	41853
METALS, DISSOLVED												
Aluminum	0.016	mg/L		0.009	0.003	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Antimony	0.00035	mg/L	J	0.0005	0.00009	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Barium	0.040	mg/L		0.003	0.00002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Boron	0.032	mg/L	J	0.1	0.006	E200.7	06/11/18 20:42 / sld			ICP2-HE_180611C	95	R135476
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Calcium	22	mg/L		1	0.07	E200.7	06/11/18 20:42 / sld			ICP2-HE_180611C	95	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Cobalt	ND	mg/L		0.01	0.00009	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Copper	0.008	mg/L		0.001	0.0001	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Iron	0.42	mg/L		0.02	0.002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Lead	0.00024	mg/L	J	0.0003	0.00003	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Magnesium	5	mg/L		1	0.1	E200.7	06/11/18 20:42 / sld			ICP2-HE_180611C	95	R135476
Manganese	0.036	mg/L		0.001	0.0003	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Mercury	4.3E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 11:28 / eli-	06/18/18 12:45		SUB-B302351	40	B_122530
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Nickel	0.0005	mg/L	J	0.002	0.0002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Potassium	2	mg/L		1	0.06	E200.7	06/11/18 20:42 / sld			ICP2-HE_180611C	95	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060190-001
Collection Date: 06/07/18 17:15
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00014	mg/L	J	0.001	0.00002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Sodium	8	mg/L		1	0.02	E200.7	06/11/18 20:42 / sld			ICP2-HE_180611C	95	R135476
Uranium	0.0011	mg/L		0.0002	0.00001	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
Zinc	0.015	mg/L		0.008	0.0003	E200.8	06/12/18 12:41 / sld			ICPMS205-H_180612B	30	R135499
METALS, TOTAL RECOVERABLE												
Aluminum	0.285	mg/L		0.009	0.003	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	06/13/18 18:11 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	32	41809
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Barium	0.029	mg/L		0.003	0.00009	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Boron	0.016	mg/L	J	0.1	0.005	E200.7	06/14/18 05:29 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	157	41809
Cadmium	0.00004	mg/L		0.00003	0.00003	E200.8	06/13/18 18:11 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	32	41809
Calcium	22	mg/L		1	0.09	E200.7	06/14/18 05:29 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	157	41809
Chromium	0.0005	mg/L	J	0.01	0.0001	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Cobalt	0.00020	mg/L	J	0.01	0.00006	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Copper	0.010	mg/L		0.001	0.0002	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Iron	1.02	mg/L		0.02	0.004	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Lead	0.0010	mg/L		0.0003	0.00004	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Magnesium	5	mg/L		1	0.2	E200.7	06/14/18 05:29 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	157	41809
Manganese	0.062	mg/L		0.001	0.0003	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Mercury	7.9E-06	mg/L		5E-06	2E-06	E245.1	06/21/18 12:40 / eli-	06/18/18 13:25		SUB-B302511	24	B_122622
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Nickel	0.0006	mg/L	J	0.002	0.0001	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Potassium	2	mg/L		1	0.06	E200.7	06/14/18 05:29 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	157	41809
Selenium	0.00021	mg/L	J	0.001	0.00005	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Silver	0.000092	mg/L	J	0.0002	9E-06	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Sodium	8	mg/L		1	0.03	E200.7	06/14/18 05:29 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	157	41809
Uranium	0.0012	mg/L		0.0002	9E-06	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Vanadium	0.0029	mg/L	J	0.1	0.00002	E200.8	06/12/18 16:03 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	133	41809
Zinc	0.008	mg/L		0.008	0.001	E200.8	06/13/18 18:11 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	32	41809

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060190-002
Collection Date: 06/07/18 16:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	10	mg/L	D	4	0.3	A2540 D	06/11/18 13:35 / SR			l24 (14410200)_180611A	11	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	73	mg/L		4	2	A2320 B	06/11/18 17:17 / SR			PHSC_101-H_180611A	139	R135427
Bicarbonate as HCO3	89	mg/L		4	2	A2320 B	06/11/18 17:17 / SR			PHSC_101-H_180611A	139	R135427
Chloride	9	mg/L		1	0.009	E300.0	06/12/18 10:17 / SR			IC METROHM_180611B	54	R135509
Sulfate	13	mg/L		1	0.01	E300.0	06/12/18 10:17 / SR			IC METROHM_180611B	54	R135509
Hardness as CaCO3	86	mg/L		1	1	A2340 B	06/11/18 20:56 / SR			CALC_180614A	476	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:13 / km			FIA203-HE_180613A	15	R135516
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.02	0.009	E353.2	06/11/18 11:33 / km			FIA203-HE_180611B	116	R135443
Nitrogen, Total	0.62	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:49 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	24	41806
Phosphorus, Total as P	0.162	mg/L		0.003	0.0006	E365.1	06/13/18 12:48 / cm	06/13/18 10:57	E365.1	FIA202-HE_180613B	38	41853
METALS, DISSOLVED												
Aluminum	0.012	mg/L		0.009	0.003	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Antimony	0.00037	mg/L	J	0.0005	0.00009	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Arsenic	0.010	mg/L		0.001	0.00004	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Barium	0.039	mg/L		0.003	0.00002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Boron	0.020	mg/L	J	0.1	0.006	E200.7	06/11/18 20:56 / sld			ICP2-HE_180611C	99	R135476
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Calcium	25	mg/L		1	0.07	E200.7	06/11/18 20:56 / sld			ICP2-HE_180611C	99	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Cobalt	ND	mg/L		0.01	0.00009	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Copper	0.008	mg/L		0.001	0.0001	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Iron	0.36	mg/L		0.02	0.002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Lead	0.00029	mg/L	J	0.0003	0.00003	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Magnesium	6	mg/L		1	0.1	E200.7	06/11/18 20:56 / sld			ICP2-HE_180611C	99	R135476
Manganese	0.051	mg/L		0.001	0.0003	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Mercury	3.4E-06	mg/L	J	5E-06	2E-06	E245.1	06/22/18 11:40 / eli-	06/22/18 07:00		SUB-B302605	14	B_122719
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Nickel	0.0005	mg/L	J	0.002	0.0002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Potassium	2	mg/L		1	0.06	E200.7	06/11/18 20:56 / sld			ICP2-HE_180611C	99	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060190-002
Collection Date: 06/07/18 16:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00016	mg/L	J	0.001	0.00002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Sodium	10	mg/L		1	0.02	E200.7	06/11/18 20:56 / sld			ICP2-HE_180611C	99	R135476
Uranium	0.0016	mg/L		0.0002	0.00001	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Vanadium	0.0021	mg/L	J	0.1	0.00007	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
Zinc	0.018	mg/L		0.008	0.0003	E200.8	06/12/18 12:43 / sld			ICPMS205-H_180612B	31	R135499
METALS, TOTAL RECOVERABLE												
Aluminum	0.300	mg/L		0.009	0.003	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	06/13/18 18:13 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	33	41809
Arsenic	0.013	mg/L		0.001	0.00004	E200.8	06/13/18 18:13 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	33	41809
Barium	0.033	mg/L		0.003	0.00009	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Boron	0.019	mg/L	J	0.1	0.005	E200.7	06/14/18 05:33 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	158	41809
Cadmium	0.00007	mg/L		0.00003	0.00003	E200.8	06/13/18 18:13 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	33	41809
Calcium	24	mg/L		1	0.09	E200.7	06/14/18 05:33 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	158	41809
Chromium	0.0006	mg/L	J	0.01	0.0001	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Cobalt	0.00021	mg/L	J	0.01	0.00006	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Copper	0.014	mg/L		0.001	0.0002	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Iron	1.03	mg/L		0.02	0.004	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Lead	0.0019	mg/L		0.0003	0.00004	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Magnesium	6	mg/L		1	0.2	E200.7	06/14/18 05:33 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	158	41809
Manganese	0.074	mg/L		0.001	0.0003	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Mercury	0.0000101	mg/L		5E-06	2E-06	E245.1	06/22/18 11:43 / eli-	06/22/18 07:00		SUB-B302605	15	B_122719
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Nickel	0.0006	mg/L	J	0.002	0.0001	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Potassium	3	mg/L		1	0.06	E200.7	06/14/18 05:33 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	158	41809
Selenium	0.00019	mg/L	J	0.001	0.00005	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Silver	0.000089	mg/L	J	0.0002	9E-06	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Sodium	10	mg/L		1	0.03	E200.7	06/14/18 05:33 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	158	41809
Uranium	0.0016	mg/L		0.0002	9E-06	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Vanadium	0.0031	mg/L	J	0.1	0.00002	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809
Zinc	0.014	mg/L		0.008	0.001	E200.8	06/12/18 16:05 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	134	41809

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060190-003
Collection Date: 06/07/18 13:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	7	mg/L	D	2	0.3	A2540 D	06/11/18 13:35 / SR			l24 (14410200)_180611A	12	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	72	mg/L		4	2	A2320 B	06/11/18 17:23 / SR			PHSC_101-H_180611A	141	R135427
Bicarbonate as HCO3	87	mg/L		4	2	A2320 B	06/11/18 17:23 / SR			PHSC_101-H_180611A	141	R135427
Chloride	0.41	mg/L	J	1	0.009	E300.0	06/12/18 10:31 / SR			IC METROHM_180611B	55	R135509
Sulfate	18	mg/L		1	0.01	E300.0	06/12/18 10:31 / SR			IC METROHM_180611B	55	R135509
Hardness as CaCO3	89	mg/L		1	1	A2340 B	06/11/18 21:00 / SR			CALC_180614A	487	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 11:04 / km			FIA203-HE_180613A	58	R135516
Nitrogen, Nitrate+Nitrite as N	0.012	mg/L	J	0.02	0.009	E353.2	06/11/18 11:34 / km			FIA203-HE_180611B	117	R135443
Nitrogen, Total	0.12	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:56 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	30	41806
Phosphorus, Total as P	0.025	mg/L		0.003	0.0006	E365.1	06/13/18 12:49 / cm	06/13/18 10:57	E365.1	FIA202-HE_180613B	39	41853
METALS, DISSOLVED												
Aluminum	0.016	mg/L		0.009	0.003	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Antimony	0.00021	mg/L	J	0.0005	0.00009	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Barium	0.019	mg/L		0.003	0.00002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Boron	0.006	mg/L	J	0.1	0.006	E200.7	06/11/18 21:00 / sld			ICP2-HE_180611C	100	R135476
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Calcium	28	mg/L		1	0.07	E200.7	06/11/18 21:00 / sld			ICP2-HE_180611C	100	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Cobalt	0.00082	mg/L	J	0.01	0.00009	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Copper	0.002	mg/L		0.001	0.0001	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Iron	0.017	mg/L	J	0.02	0.002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Lead	ND	mg/L		0.0003	0.00003	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Magnesium	4	mg/L		1	0.1	E200.7	06/11/18 21:00 / sld			ICP2-HE_180611C	100	R135476
Manganese	0.002	mg/L		0.001	0.0003	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Mercury	3.0E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 11:39 / eli-	06/18/18 12:45		SUB-B302351	44	B_122530
Molybdenum	0.00018	mg/L	J	0.005	0.00002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Nickel	0.0002	mg/L	J	0.002	0.0002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Potassium	1	mg/L		1	0.06	E200.7	06/11/18 21:00 / sld			ICP2-HE_180611C	100	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060190-003
Collection Date: 06/07/18 13:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00086	mg/L	J	0.001	0.00002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Sodium	3	mg/L		1	0.02	E200.7	06/11/18 21:00 / sld			ICP2-HE_180611C	100	R135476
Uranium	0.0003	mg/L		0.0002	0.00001	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Vanadium	0.0010	mg/L	J	0.1	0.00007	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
Zinc	0.0039	mg/L	J	0.008	0.0003	E200.8	06/12/18 12:45 / sld			ICPMS205-H_180612B	32	R135499
METALS, TOTAL RECOVERABLE												
Aluminum	0.338	mg/L		0.009	0.003	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Barium	0.020	mg/L		0.003	0.00009	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Boron	0.006	mg/L	J	0.1	0.005	E200.7	06/14/18 05:44 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	161	41809
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Calcium	28	mg/L		1	0.09	E200.7	06/14/18 05:44 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	161	41809
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Cobalt	0.00095	mg/L	J	0.01	0.00006	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Copper	0.002	mg/L		0.001	0.0002	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Iron	0.24	mg/L		0.02	0.004	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Lead	0.0003	mg/L		0.0003	0.00004	E200.8	06/13/18 18:15 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180613C	34	41809
Magnesium	4	mg/L		1	0.2	E200.7	06/14/18 05:44 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	161	41809
Manganese	0.008	mg/L		0.001	0.0003	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Mercury	4.0E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 11:48 / eli-	06/18/18 12:45		SUB-B302351	46	B_122530
Molybdenum	0.00020	mg/L	J	0.005	0.00002	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Nickel	0.0004	mg/L	J	0.002	0.0001	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Potassium	1	mg/L		1	0.06	E200.7	06/14/18 05:44 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	161	41809
Selenium	0.00073	mg/L	J	0.001	0.00005	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Silver	0.000025	mg/L	J	0.0002	9E-06	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Sodium	3	mg/L		1	0.03	E200.7	06/14/18 05:44 / sld	06/11/18 14:43	E200.2	ICP2-HE_180613B	161	41809
Uranium	0.0004	mg/L		0.0002	9E-06	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Vanadium	0.0016	mg/L	J	0.1	0.00002	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	06/12/18 16:07 / sld	06/11/18 14:43	E200.2	ICPMS205-H_180612B	135	41809

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-04 Sediment Sieve <0.063 mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-004
Collection Date: 06/07/18 16:30
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	55.3	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			)RYING OVEN 2_180625B	1	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.5	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	1	R135650
3050 EXTRACTABLE METALS												
Arsenic	211	mg/kg-dry		5	0.4	SW6020	06/19/18 11:41 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	66	41893
Cadmium	7.7	mg/kg-dry		0.2	0.2	SW6020	06/19/18 11:41 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	66	41893
Copper	1520	mg/kg-dry		6	6	SW6010B	06/19/18 14:23 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	23	41893
Lead	587	mg/kg-dry		5	0.8	SW6020	06/19/18 11:41 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	66	41893
Zinc	1720	mg/kg-dry		7	7	SW6010B	06/19/18 14:23 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	23	41893

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SLAG-01 Sediment Sieve <0.063 mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-005
Collection Date: 06/07/18 16:15
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	56.5	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			)RYING OVEN 2_180625B	2	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.3	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	2	R135650
3050 EXTRACTABLE METALS												
Arsenic	192	mg/kg-dry		5	0.4	SW6020	06/19/18 11:43 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	67	41893
Cadmium	16.7	mg/kg-dry		0.2	0.2	SW6020	06/19/18 11:43 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	67	41893
Copper	1700	mg/kg-dry		6	6	SW6010B	06/19/18 14:27 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	24	41893
Lead	761	mg/kg-dry		5	0.8	SW6020	06/19/18 11:43 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	67	41893
Zinc	2370	mg/kg-dry		7	7	SW6010B	06/19/18 14:27 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	24	41893

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve <0.063 mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-006
Collection Date: 06/07/18 17:15
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	59.3	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			ORYING OVEN 2_180625B	4	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Passed	5.1	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	3	R135650
3050 EXTRACTABLE METALS												
Aluminum	16500	mg/kg-dry	D	20	20	SW6010B	06/19/18 14:30 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	25	41893
Antimony	ND	mg/kg-dry		5	2	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Arsenic	31	mg/kg-dry		5	0.5	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Barium	195	mg/kg-dry		5	2	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Beryllium	ND	mg/kg-dry		5	0.7	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Boron	11	mg/kg-dry		5	2	SW6010B	06/19/18 14:30 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	25	41893
Cadmium	0.9	mg/kg-dry		0.2	0.2	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Chromium	41	mg/kg-dry		5	1	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Cobalt	8	mg/kg-dry		5	2	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Copper	182	mg/kg-dry		7	7	SW6010B	06/19/18 14:30 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	25	41893
Iron	27600	mg/kg-dry	D	100	100	SW6010B	06/19/18 14:30 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	25	41893
Lead	173	mg/kg-dry		5	0.9	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Manganese	634	mg/kg-dry		5	2	SW6010B	06/19/18 14:30 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	25	41893
Molybdenum	13	mg/kg-dry		5	0.4	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Nickel	18	mg/kg-dry		5	0.9	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Selenium	2.1	mg/kg-dry	J	5	0.9	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Silver	1.1	mg/kg-dry	J	5	0.4	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Uranium	8	mg/kg-dry		5	0.2	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Vanadium	89	mg/kg-dry		1	0.9	SW6020	06/19/18 11:45 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	68	41893
Zinc	287	mg/kg-dry		7	7	SW6010B	06/19/18 14:30 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	25	41893
METALS, TOTAL												
Mercury	0.20	mg/kg-dry		0.10	0.0076	SW7471B	06/20/18 16:38 / dck	06/15/18 17:53	SW7471B	HGCV201-H_180620B	31	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-007
Collection Date: 06/07/18 17:15
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	26.5	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			)RYING OVEN 2_180625B	6	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Retained	48.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	4	R135650
3050 EXTRACTABLE METALS												
Aluminum	5320	mg/kg-dry	D	10	10	SW6010B	06/19/18 14:34 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	26	41893
Antimony	ND	mg/kg-dry		5	1	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Arsenic	4.4	mg/kg-dry	J	5	0.3	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Barium	63	mg/kg-dry		5	1	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/19/18 14:34 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	26	41893
Cadmium	0.2	mg/kg-dry		0.2	0.1	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Chromium	22	mg/kg-dry		5	0.8	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Copper	35	mg/kg-dry		5	4	SW6010B	06/19/18 14:34 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	26	41893
Iron	20900	mg/kg-dry	D	70	70	SW6010B	06/19/18 14:34 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	26	41893
Lead	26	mg/kg-dry		5	0.5	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Manganese	189	mg/kg-dry		5	1	SW6010B	06/19/18 14:34 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	26	41893
Molybdenum	1.2	mg/kg-dry	J	5	0.2	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Nickel	4.9	mg/kg-dry	J	5	0.5	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Uranium	4.6	mg/kg-dry	J	5	0.1	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Vanadium	69	mg/kg-dry		1	0.5	SW6020	06/19/18 11:47 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	69	41893
Zinc	92	mg/kg-dry		5	4	SW6010B	06/19/18 14:34 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180619A	26	41893
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0043	SW7471B	06/20/18 17:44 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	59	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-008
Collection Date: 06/07/18 17:15
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.1	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	: 10	R135880
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	13.9	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	: 5	R135650
3050 EXTRACTABLE METALS												
Aluminum	2660	mg/kg-dry	D	10	10	SW6010B	06/20/18 12:20 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180620A	: 42	41893
Antimony	ND	mg/kg-dry		5	1	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Arsenic	3.2	mg/kg-dry	J	5	0.2	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Barium	33	mg/kg-dry		5	1	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/20/18 12:20 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180620A	: 42	41893
Cadmium	0.1	mg/kg-dry	J	0.2	0.1	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Chromium	4.3	mg/kg-dry	J	5	0.8	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Cobalt	1	mg/kg-dry	J	5	1	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Copper	13	mg/kg-dry		5	4	SW6010B	06/20/18 12:20 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180620A	: 42	41893
Iron	4800	mg/kg-dry	D	70	70	SW6010B	06/20/18 12:20 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180620A	: 42	41893
Lead	9	mg/kg-dry		5	0.5	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Manganese	199	mg/kg-dry		5	1	SW6010B	06/20/18 12:20 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180620A	: 42	41893
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Nickel	2.1	mg/kg-dry	J	5	0.5	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Vanadium	13	mg/kg-dry		1	0.5	SW6020	06/19/18 12:08 / sld	06/17/18 17:28	SW3050 B	ICPMS205-H_180619B	: 80	41893
Zinc	98	mg/kg-dry		5	4	SW6010B	06/20/18 12:20 / sld	06/17/18 17:28	SW3050 B	ICP2-HE_180620A	: 42	41893
METALS, TOTAL												
Mercury	0.008	mg/kg-dry	J	0.10	0.0043	SW7471B	06/20/18 18:40 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	: 87	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-009
Collection Date: 06/07/18 16:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	58.6	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	12	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	6	R135650
3050 EXTRACTABLE METALS												
Aluminum	21700	mg/kg-dry	D	20	20	SW6010B	06/20/18 12:39 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	47	41893
Antimony	4	mg/kg-dry	J	5	2	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Arsenic	335	mg/kg-dry		5	0.5	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Barium	391	mg/kg-dry		5	2	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Beryllium	0.9	mg/kg-dry	J	5	0.7	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Boron	11	mg/kg-dry		5	2	SW6010B	06/20/18 12:39 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	47	41893
Cadmium	14.6	mg/kg-dry		0.2	0.2	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Chromium	113	mg/kg-dry		5	1	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Cobalt	16	mg/kg-dry		5	2	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Copper	3480	mg/kg-dry		7	7	SW6010B	06/20/18 12:39 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	47	41893
Iron	53500	mg/kg-dry	D	100	100	SW6010B	06/20/18 12:39 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	47	41893
Lead	812	mg/kg-dry		5	0.9	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Manganese	1910	mg/kg-dry		5	2	SW6010B	06/20/18 12:39 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	47	41893
Molybdenum	14	mg/kg-dry		5	0.4	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Nickel	45	mg/kg-dry		5	0.9	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Selenium	2.6	mg/kg-dry	J	5	0.8	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Silver	10	mg/kg-dry		5	0.4	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Uranium	12	mg/kg-dry		5	0.2	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Vanadium	118	mg/kg-dry		1	0.9	SW6020	06/19/18 12:12 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	82	41893
Zinc	2890	mg/kg-dry		7	7	SW6010B	06/20/18 12:39 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	47	41893
METALS, TOTAL												
Mercury	1.2	mg/kg-dry		0.11	0.038	SW7471B	06/20/18 19:39 / dck	06/15/18 17:53	SW7471B	HGCV201-H_180620B	112	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-010
Collection Date: 06/07/18 16:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.0	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	14	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Retained	26.3	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	7	R135650
3050 EXTRACTABLE METALS												
Aluminum	4380	mg/kg-dry	D	10	10	SW6010B	06/20/18 12:42 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	48	41893
Antimony	1	mg/kg-dry	J	5	1	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Arsenic	61	mg/kg-dry		5	0.2	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Barium	63	mg/kg-dry		5	1	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/20/18 12:42 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	48	41893
Cadmium	3.7	mg/kg-dry		0.2	0.1	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Chromium	29	mg/kg-dry		5	0.7	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Cobalt	15	mg/kg-dry		5	1	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Copper	595	mg/kg-dry		5	3	SW6010B	06/20/18 12:42 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	48	41893
Iron	60400	mg/kg	D	300	300	SW6010B	06/21/18 17:58 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180621B	18	41893
Lead	129	mg/kg-dry		5	0.4	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Manganese	928	mg/kg-dry		5	1	SW6010B	06/20/18 12:42 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	48	41893
Molybdenum	2.4	mg/kg-dry	J	5	0.2	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Nickel	12	mg/kg-dry		5	0.5	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Selenium	1.6	mg/kg-dry	J	5	0.4	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Silver	3.1	mg/kg-dry	J	5	0.2	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Uranium	3.8	mg/kg-dry	J	5	0.1	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Vanadium	102	mg/kg-dry		1	0.4	SW6020	06/19/18 12:14 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	83	41893
Zinc	1490	mg/kg-dry		5	4	SW6010B	06/20/18 12:42 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	48	41893
METALS, TOTAL												
Mercury	0.1	mg/kg-dry	J	0.10	0.0041	SW7471B	06/20/18 17:52 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	63	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-011
Collection Date: 06/07/18 16:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.8	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	: 16	R135880
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	14.5	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	: 8	R135650
3050 EXTRACTABLE METALS												
Aluminum	3770	mg/kg-dry	D	10	10	SW6010B	06/20/18 13:24 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 59	41893
Antimony	2	mg/kg-dry	J	5	1	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Arsenic	49	mg/kg-dry		5	0.2	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Barium	50	mg/kg-dry		5	1	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Boron	1	mg/kg-dry	J	5	1	SW6010B	06/20/18 13:24 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 59	41893
Cadmium	2.7	mg/kg-dry		0.2	0.1	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Chromium	8	mg/kg-dry		5	0.7	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Copper	374	mg/kg-dry		5	3	SW6010B	06/20/18 13:24 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 59	41893
Iron	18200	mg/kg-dry	D	60	60	SW6010B	06/20/18 13:24 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 59	41893
Lead	122	mg/kg-dry		5	0.4	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Manganese	1780	mg/kg-dry		5	1	SW6010B	06/20/18 13:24 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 59	41893
Molybdenum	9	mg/kg-dry		5	0.2	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Nickel	3.8	mg/kg-dry	J	5	0.4	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Silver	1.1	mg/kg-dry	J	5	0.2	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Uranium	1.6	mg/kg-dry	J	5	0.1	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Vanadium	24	mg/kg-dry		1	0.4	SW6020	06/19/18 12:16 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 84	41893
Zinc	1210	mg/kg-dry		5	4	SW6010B	06/20/18 13:24 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 59	41893
METALS, TOTAL												
Mercury	0.08	mg/kg-dry	J	0.10	0.0039	SW7471B	06/20/18 18:48 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	: 91	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve <0.063
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-012
Collection Date: 06/06/18 13:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	60.2	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	18	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Passed	8.2	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	9	R135650
3050 EXTRACTABLE METALS												
Aluminum	36100	mg/kg-dry	D	30	30	SW6010B	06/20/18 13:27 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	60	41893
Antimony	ND	mg/kg-dry		5	2	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Arsenic	63	mg/kg-dry		5	0.5	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Barium	311	mg/kg-dry		5	2	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Beryllium	1.8	mg/kg-dry	J	5	0.8	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Boron	8	mg/kg-dry		5	2	SW6010B	06/20/18 13:27 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	60	41893
Cadmium	1.4	mg/kg-dry		0.2	0.2	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Chromium	62	mg/kg-dry		5	2	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Cobalt	12	mg/kg-dry		5	2	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Copper	105	mg/kg-dry		7	7	SW6010B	06/20/18 13:27 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	60	41893
Iron	28400	mg/kg-dry	D	100	100	SW6010B	06/20/18 13:27 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	60	41893
Lead	54	mg/kg-dry		5	0.9	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Manganese	573	mg/kg-dry		5	2	SW6010B	06/20/18 13:27 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	60	41893
Molybdenum	1.5	mg/kg-dry	J	5	0.4	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Nickel	35	mg/kg-dry		5	1	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Selenium	2.3	mg/kg-dry	J	5	0.9	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Silver	0.5	mg/kg-dry	J	5	0.4	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Uranium	4.4	mg/kg-dry	J	5	0.3	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Vanadium	66	mg/kg-dry		1	0.9	SW6020	06/19/18 12:32 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	92	41893
Zinc	157	mg/kg-dry		8	8	SW6010B	06/20/18 13:27 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	60	41893
METALS, TOTAL												
Mercury	0.30	mg/kg-dry		0.10	0.0077	SW7471B	06/20/18 16:54 / dck	06/15/18 17:53	SW7471B	HGCV201-H_180620B	36	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-013
Collection Date: 06/06/18 13:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	25.3	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	: 20	R135880
SIEVE ANALYSIS												
No. 230 (63 um), Retained	90.9	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	: 10	R135650
3050 EXTRACTABLE METALS												
Aluminum	11200	mg/kg-dry	D	10	10	SW6010B	06/20/18 13:46 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 65	41893
Antimony	ND	mg/kg-dry		5	1	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Arsenic	28	mg/kg-dry		5	0.3	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Barium	190	mg/kg-dry		5	1	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/20/18 13:46 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 65	41893
Cadmium	ND	mg/kg-dry		0.2	0.1	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Chromium	17	mg/kg-dry		5	0.8	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Cobalt	6	mg/kg-dry		5	1	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Copper	21	mg/kg-dry		5	4	SW6010B	06/20/18 13:46 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 65	41893
Iron	16300	mg/kg-dry	D	70	70	SW6010B	06/20/18 13:46 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 65	41893
Lead	8	mg/kg-dry		5	0.5	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Manganese	177	mg/kg-dry		5	1	SW6010B	06/20/18 13:46 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 65	41893
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Nickel	10	mg/kg-dry		5	0.5	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Vanadium	42	mg/kg-dry		1	0.5	SW6020	06/19/18 12:36 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 94	41893
Zinc	42	mg/kg-dry		5	4	SW6010B	06/20/18 13:46 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 65	41893
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0044	SW7471B	06/20/18 17:54 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	: 64	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060190-014
Collection Date: 06/06/18 13:00
DateReceived: 06/08/18
Report Date: 06/27/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	49.6	wt%		0.2	0.02	D2974	06/26/18 07:15 / ber			RYING OVEN 2_180625B	: 24	R135880
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	0.9	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	: 11	R135650
3050 EXTRACTABLE METALS												
Aluminum	16000	mg/kg-dry	D	20	20	SW6010B	06/20/18 13:50 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 66	41893
Antimony	ND	mg/kg-dry		5	2	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Arsenic	21	mg/kg-dry		5	0.4	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Barium	299	mg/kg-dry		5	2	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Beryllium	0.6	mg/kg-dry	J	5	0.6	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Boron	3	mg/kg-dry	J	5	2	SW6010B	06/20/18 13:50 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 66	41893
Cadmium	0.4	mg/kg-dry		0.2	0.2	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Chromium	18	mg/kg-dry		5	1	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Cobalt	13	mg/kg-dry		5	2	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Copper	55	mg/kg-dry		5	5	SW6010B	06/20/18 13:50 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 66	41893
Iron	29100	mg/kg-dry	D	100	100	SW6010B	06/20/18 13:50 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 66	41893
Lead	29	mg/kg-dry		5	0.7	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Manganese	451	mg/kg-dry		5	2	SW6010B	06/20/18 13:50 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 66	41893
Molybdenum	0.4	mg/kg-dry	J	5	0.3	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Nickel	17	mg/kg-dry		5	0.7	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Selenium	ND	mg/kg-dry		5	0.7	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Silver	ND	mg/kg-dry		5	0.3	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Uranium	2.5	mg/kg-dry	J	5	0.2	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Vanadium	68	mg/kg-dry		1	0.7	SW6020	06/19/18 12:38 / sld	06/17/18 17:29	SW3050 B	ICPMS205-H_180619B	: 95	41893
Zinc	99	mg/kg-dry		6	6	SW6010B	06/20/18 13:50 / sld	06/17/18 17:29	SW3050 B	ICP2-HE_180620A	: 66	41893
METALS, TOTAL												
Mercury	0.06	mg/kg-dry	J	0.10	0.010	SW7471B	06/20/18 18:50 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	: 92	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 180620sa-hg201

Run ID :Run Order: **HGCV201-H_180620B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/20/18 12:21** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	100	90	110				

Associated samples: **H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 12:23** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	102	90	110				

Associated samples: **H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 25** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/20/18 16:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001	0	100	90	110				

Associated samples: **H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 16:29** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Associated samples: **H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41806

Run ID :Run Order: **FIA203-HE_180611C: 11** SampType: **Method Blank** Lab ID: **MB-41806** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:33** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.01									

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **FIA203-HE_180611C: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-41806** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:34** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	14.5	0.30	14	0	**103**	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **FIA203-HE_180611C: 21** SampType: **Sample Matrix Spike** Lab ID: **H18060191-002AMS** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:45** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.923	0.10	1	0	**92**	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **FIA203-HE_180611C: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-002AMSD** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:46** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.899	0.10	1	0	**90**	90	110	0.9232	**2.7**	20	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **FIA203-HE_180611C: 28** SampType: **Sample Matrix Spike** Lab ID: **H18060191-009AMS** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:53** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.940	0.10	1	0	**94**	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41806

Run ID :Run Order: **FIA203-HE_180611C: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-009AMSD** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:54** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.908	0.10	1	0	**91**	90	110	0.9403	**3.5**	20	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICP2-HE_180613B: 155** SampType: **Method Blank** Lab ID: **MB-41809** Method: **E200.7**

Analysis Date: **06/14/18 05:21** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									
Magnesium	ND	0.009									
Potassium	ND	0.06									
Sodium	ND	0.03									

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 156** SampType: **Laboratory Control Sample** Lab ID: **LCS-41809** Method: **E200.7**

Analysis Date: **06/14/18 05:25** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.490	0.050	0.5	0	**98**	85	115				
Calcium	25.0	1.0	25	0	**100**	85	115				
Magnesium	24.6	1.0	25	0	**98**	85	115				
Potassium	25.8	1.0	25	0	**103**	85	115				
Sodium	25.8	1.0	25	0	**103**	85	115				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 165** SampType: **Sample Matrix Spike** Lab ID: **H18060211-001CMS3** Method: **E200.7**

Analysis Date: **06/14/18 05:59** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.492	0.050	0.5	0.00513	**97**	70	130				
Calcium	98.8	1.0	25	72.07	**107**	70	130				
Magnesium	39.5	1.0	25	14.24	**101**	70	130				
Potassium	26.5	1.0	25	0.7417	**103**	70	130				
Sodium	33.0	1.0	25	7.574	**102**	70	130				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 166** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060211-001CMSD3** Method: **E200.7**

Analysis Date: **06/14/18 06:03** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.495	0.050	0.5	0.00513	**98**	70	130	0.4923	**0.6**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICP2-HE_180613B: 166** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060211-001CMSD3** Method: **E200.7**

Analysis Date: **06/14/18 06:03** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	99.5	1.0	25	72.07	**110**	70	130	98.78	**0.7**	20	
Magnesium	39.8	1.0	25	14.24	**102**	70	130	39.54	**0.6**	20	
Potassium	25.9	1.0	25	0.7417	**101**	70	130	26.47	**2.3**	20	
Sodium	32.4	1.0	25	7.574	**99**	70	130	33.01	**2.0**	20	

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICPMS205-H_180612B: 125** SampType: **Laboratory Control Sample** Lab ID: **LCS-41809** Method: **E200.8**

Analysis Date: **06/12/18 15:48** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0	101	85	115				
Antimony	0.550	0.0010	0.5	0.0001977	110	85	115				
Arsenic	0.527	0.0010	0.5	0.0000398	105	85	115				
Barium	0.520	0.050	0.5	0	104	85	115				
Beryllium	0.254	0.0010	0.25	0	102	85	115				
Cadmium	0.257	0.0010	0.25	0	103	85	115				
Chromium	0.511	0.0050	0.5	0	102	85	115				
Cobalt	0.525	0.0050	0.5	0	105	85	115				
Copper	0.511	0.0050	0.5	0.0001931	102	85	115				
Iron	2.52	0.020	2.5	0	101	85	115				
Lead	0.539	0.0010	0.5	0.00006198	108	85	115				
Manganese	2.69	0.0010	2.5	0	107	85	115				
Molybdenum	0.513	0.0010	0.5	0.00004041	103	85	115				
Nickel	0.516	0.0050	0.5	0	103	85	115				
Selenium	0.514	0.0010	0.5	0.00005347	103	85	115				
Silver	0.0514	0.0010	0.05	0.00005127	103	85	115				
Uranium	0.494	0.00030	0.5	0.000009758	99	85	115				
Vanadium	0.510	0.010	0.5	0.0001126	102	85	115				
Zinc	0.513	0.010	0.5	0.001561	102	85	115				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 126** SampType: **Sample Matrix Spike** Lab ID: **H18060184-001CMS3** Method: **E200.8**

Analysis Date: **06/12/18 15:50** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.83	0.030	2.5	1.112	109	70	130				
Antimony	0.548	0.0010	0.5	0.000345	110	70	130				
Arsenic	0.525	0.0010	0.5	0.001864	105	70	130				
Barium	0.549	0.050	0.5	0.02738	104	70	130				
Beryllium	0.251	0.0010	0.25	0.0001742	100	70	130				
Cadmium	0.256	0.0010	0.25	0.00004083	102	70	130				
Chromium	0.501	0.0050	0.5	0.0008373	100	70	130				
Cobalt	0.514	0.0050	0.5	0.0003952	103	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICPMS205-H_180612B: 126** SampType: **Sample Matrix Spike** Lab ID: **H18060184-001CMS3** Method: **E200.8**

Analysis Date: **06/12/18 15:50** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.508	0.0050	0.5	0.004949	101	70	130				
Iron	3.56	0.020	2.5	1.07	100	70	130				
Lead	0.547	0.0010	0.5	0.001202	109	70	130				
Manganese	2.66	0.0010	2.5	0.04113	105	70	130				
Molybdenum	0.529	0.0010	0.5	0.002256	105	70	130				
Nickel	0.507	0.0050	0.5	0.0009264	101	70	130				
Selenium	0.507	0.0010	0.5	0.0002218	101	70	130				
Silver	0.0509	0.0010	0.05	0.00006924	102	70	130				
Uranium	0.509	0.00030	0.5	0.002022	101	70	130				
Vanadium	0.501	0.010	0.5	0.003052	100	70	130				
Zinc	0.515	0.010	0.5	0.008948	101	70	130				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 127** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060184-001CMSD3** Method: **E200.8**

Analysis Date: **06/12/18 15:52** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.78	0.030	2.5	1.112	107	70	130	3.831	1.3	20	
Antimony	0.541	0.0010	0.5	0.000345	108	70	130	0.5483	1.3	20	
Arsenic	0.520	0.0010	0.5	0.001864	104	70	130	0.5247	0.9	20	
Barium	0.539	0.050	0.5	0.02738	102	70	130	0.5489	1.7	20	
Beryllium	0.255	0.0010	0.25	0.0001742	102	70	130	0.2511	1.4	20	
Cadmium	0.252	0.0010	0.25	0.00004083	101	70	130	0.256	1.6	20	
Chromium	0.497	0.0050	0.5	0.0008373	99	70	130	0.5007	0.8	20	
Cobalt	0.510	0.0050	0.5	0.0003952	102	70	130	0.5137	0.8	20	
Copper	0.503	0.0050	0.5	0.004949	100	70	130	0.5082	1.0	20	
Iron	3.53	0.020	2.5	1.07	98	70	130	3.563	1.0	20	
Lead	0.517	0.0010	0.5	0.001202	103	70	130	0.5474	5.6	20	
Manganese	2.67	0.0010	2.5	0.04113	105	70	130	2.665	0.2	20	
Molybdenum	0.519	0.0010	0.5	0.002256	103	70	130	0.5286	1.7	20	
Nickel	0.503	0.0050	0.5	0.0009264	100	70	130	0.5071	0.9	20	
Selenium	0.512	0.0010	0.5	0.0002218	102	70	130	0.5069	1.0	20	
Silver	0.0502	0.0010	0.05	0.00006924	100	70	130	0.05087	1.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICPMS205-H_180612B: 127** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060184-001CMSD3** Method: **E200.8**

Analysis Date: **06/12/18 15:52** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.472	0.00030	0.5	0.002022	**94**	70	130	0.5091	**7.6**	20	
Vanadium	0.496	0.010	0.5	0.003052	**99**	70	130	0.5009	**1.0**	20	
Zinc	0.509	0.010	0.5	0.008948	**100**	70	130	0.5146	**1.1**	20	

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 138** SampType: **Sample Matrix Spike** Lab ID: **H18060211-001CMS3** Method: **E200.8**

Analysis Date: **06/12/18 16:13** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.00	0.030	2.5	2.514	**99**	70	130				
Antimony	0.548	0.0010	0.5	0.0003287	**109**	70	130				
Arsenic	0.639	0.0010	0.5	0.1163	**105**	70	130				
Barium	0.520	0.050	0.5	0.005415	**103**	70	130				
Beryllium	0.247	0.0010	0.25	0.0002218	**99**	70	130				
Cadmium	0.268	0.0010	0.25	0.01582	**101**	70	130				
Chromium	0.522	0.0050	0.5	0.0004662	**104**	70	130				
Cobalt	0.541	0.0050	0.5	0.01731	**105**	70	130				
Copper	0.555	0.0050	0.5	0.04749	**102**	70	130				
Iron	9.65	0.020	2.5	7.181	**99**	70	130				
Lead	0.547	0.0010	0.5	0.017	**106**	70	130				
Manganese	4.34	0.0010	2.5	1.805	**102**	70	130				
Molybdenum	0.534	0.0010	0.5	0.0001367	**107**	70	130				
Nickel	0.509	0.0050	0.5	0.009874	**100**	70	130				
Selenium	0.502	0.0010	0.5	0.0001416	**100**	70	130				
Silver	0.0501	0.0010	0.05	0.0000503	**100**	70	130				
Uranium	0.493	0.00030	0.5	0.0000655	**99**	70	130				
Vanadium	0.497	0.010	0.5	0.0006387	**99**	70	130				
Zinc	3.08	0.010	0.5	2.569		70	130				A

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICPMS205-H_180612B: 139** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060211-001CMSD3** Method: **E200.8**

Analysis Date: **06/12/18 16:15** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.08	0.030	2.5	2.514	103	70	130	5	1.7	20	
Antimony	0.550	0.0010	0.5	0.0003287	110	70	130	0.5478	0.4	20	
Arsenic	0.644	0.0010	0.5	0.1163	106	70	130	0.6392	0.8	20	
Barium	0.524	0.050	0.5	0.005415	104	70	130	0.5197	0.9	20	
Beryllium	0.248	0.0010	0.25	0.0002218	99	70	130	0.2473	0.4	20	
Cadmium	0.271	0.0010	0.25	0.01582	102	70	130	0.2678	1.2	20	
Chromium	0.502	0.0050	0.5	0.0004662	100	70	130	0.5219	3.8	20	
Cobalt	0.534	0.0050	0.5	0.01731	103	70	130	0.5409	1.2	20	
Copper	0.553	0.0050	0.5	0.04749	101	70	130	0.5552	0.3	20	
Iron	9.62	0.020	2.5	7.181	98	70	130	9.648	0.2	20	
Lead	0.559	0.0010	0.5	0.017	108	70	130	0.547	2.2	20	
Manganese	4.34	0.0010	2.5	1.805	101	70	130	4.345	0.1	20	
Molybdenum	0.545	0.0010	0.5	0.0001367	109	70	130	0.5342	2.1	20	
Nickel	0.512	0.0050	0.5	0.009874	100	70	130	0.5086	0.7	20	
Selenium	0.511	0.0010	0.5	0.0001416	102	70	130	0.5022	1.8	20	
Silver	0.0511	0.0010	0.05	0.0000503	102	70	130	0.05015	1.9	20	
Uranium	0.489	0.00030	0.5	0.0000655	98	70	130	0.4931	0.8	20	
Vanadium	0.501	0.010	0.5	0.0006387	100	70	130	0.4968	0.8	20	
Zinc	2.98	0.010	0.5	2.569		70	130	3.084	3.3	20	A

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 152** SampType: **Sample Matrix Spike** Lab ID: **H18060145-001BMS3** Method: **E200.8**

Analysis Date: **06/13/18 22:05** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	12.6	0.030	2.5	5.712	278	70	130				S
Antimony	0.510	0.0010	0.5	0.0002647	102	70	130				
Arsenic	0.497	0.0010	0.5	0.002535	99	70	130				
Barium	0.555	0.050	0.5	0.04477	102	70	130				
Beryllium	0.247	0.0010	0.25	0.0004334	99	70	130				
Cadmium	0.248	0.0010	0.25	0.00009958	99	70	130				
Chromium	0.506	0.0050	0.5	0.008059	100	70	130				
Cobalt	0.505	0.0050	0.5	0.0008317	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICPMS205-H_180613C: 152** SampType: **Sample Matrix Spike** Lab ID: **H18060145-001BMS3** Method: **E200.8**

Analysis Date: **06/13/18 22:05** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.488	0.0050	0.5	0.006753	96	70	130				
Iron	7.59	0.020	2.5	4.656	117	70	130				
Lead	0.487	0.0010	0.5	0.002638	97	70	130				
Manganese	2.64	0.0010	2.5	0.0257	105	70	130				
Molybdenum	0.521	0.0010	0.5	0.0005182	104	70	130				
Nickel	0.489	0.0050	0.5	0.00652	96	70	130				
Selenium	0.496	0.0010	0.5	0.0006054	99	70	130				
Silver	0.0686	0.0010	0.05	0.0007552	136	70	130				S
Uranium	0.444	0.00030	0.5	0.001921	88	70	130				
Vanadium	0.503	0.010	0.5	0.009267	99	70	130				
Zinc	0.498	0.010	0.5	0.01705	96	70	130				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 153** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060145-001BMSD3** Method: **E200.8**

Analysis Date: **06/13/18 22:07** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	12.7	0.030	2.5	5.712	278	70	130	12.65	0.2	20	S
Antimony	0.503	0.0010	0.5	0.0002647	101	70	130	0.5101	1.3	20	
Arsenic	0.497	0.0010	0.5	0.002535	99	70	130	0.4968	0.1	20	
Barium	0.549	0.050	0.5	0.04477	101	70	130	0.5551	1.1	20	
Beryllium	0.250	0.0010	0.25	0.0004334	100	70	130	0.2474	0.9	20	
Cadmium	0.247	0.0010	0.25	0.00009958	99	70	130	0.2484	0.5	20	
Chromium	0.505	0.0050	0.5	0.008059	99	70	130	0.506	0.2	20	
Cobalt	0.507	0.0050	0.5	0.0008317	101	70	130	0.5049	0.5	20	
Copper	0.487	0.0050	0.5	0.006753	96	70	130	0.4885	0.2	20	
Iron	7.59	0.020	2.5	4.656	117	70	130	7.591	0.0	20	
Lead	0.508	0.0010	0.5	0.002638	101	70	130	0.487	4.2	20	
Manganese	2.63	0.0010	2.5	0.0257	104	70	130	2.644	0.6	20	
Molybdenum	0.500	0.0010	0.5	0.0005182	100	70	130	0.5211	4.2	20	
Nickel	0.489	0.0050	0.5	0.00652	96	70	130	0.489	0.1	20	
Selenium	0.500	0.0010	0.5	0.0006054	100	70	130	0.4956	0.9	20	
Silver	0.0601	0.0010	0.05	0.0007552	119	70	130	0.0686	13	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41809

Run ID :Run Order: **ICPMS205-H_180613C: 153** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060145-001BMSD3** Method: **E200.8**

Analysis Date: **06/13/18 22:07** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.474	0.00030	0.5	0.001921	**94**	70	130	0.4436	**6.6**	20	
Vanadium	0.502	0.010	0.5	0.009267	**98**	70	130	0.5033	**0.3**	20	
Zinc	0.502	0.010	0.5	0.01705	**97**	70	130	0.4975	**0.9**	20	

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180619C: 60** SampType: **Method Blank** Lab ID: **MB-41809** Method: **E200.8**

Analysis Date: **06/19/18 14:55** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	0.0002	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	3E-05	2E-05									
Silver	4E-05	2E-05									
Uranium	ND	1E-05									
Vanadium	0.0002	7E-05									
Zinc	0.0008	0.0003									

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41853

Run ID :Run Order: **FIA202-HE_180613B: 14** SampType: **Laboratory Control Sample** Lab ID: **LCS-41853** Method: **E365.1**
Analysis Date: **06/13/18 12:21** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.413	0.010	0.4	0	103	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA202-HE_180613B: 15** SampType: **Method Blank** Lab ID: **MB-41853** Method: **E365.1**
Analysis Date: **06/13/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0006									

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA202-HE_180613B: 42** SampType: **Sample Matrix Spike** Lab ID: **H18060191-002DMS** Method: **E365.1**
Analysis Date: **06/13/18 12:52** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.218	0.010	0.2	0.00238	108	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA202-HE_180613B: 43** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-002DMSD** Method: **E365.1**
Analysis Date: **06/13/18 12:54** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.213	0.010	0.2	0.00238	105	90	110	0.2176	2.3	20	

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41890

Run ID :Run Order: **HGCV201-H_180620B: 28** SampType: **Method Blank** Lab ID: **MB-41890** Method: **SW7471B**
Analysis Date: **06/20/18 16:32** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18060190-006A, H18060190-009A, H18060190-012A**

Run ID :Run Order: **HGCV201-H_180620B: 29** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41890** Method: **SW7471B**
Analysis Date: **06/20/18 16:34** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.19	0	108	80	120				

Associated samples: **H18060190-006A, H18060190-009A, H18060190-012A**

Run ID :Run Order: **HGCV201-H_180620B: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS-41890** Method: **SW7471B**
Analysis Date: **06/20/18 16:36** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.5	0.50	5	0	110	71	126.4				

Associated samples: **H18060190-006A, H18060190-009A, H18060190-012A**

Run ID :Run Order: **HGCV201-H_180620B: 33** SampType: **Sample Matrix Spike** Lab ID: **H18060190-006AMS** Method: **SW7471B**
Analysis Date: **06/20/18 16:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.61	0.10	0.4419	0.1952	94	80	120				

Associated samples: **H18060190-006A, H18060190-009A, H18060190-012A**

Run ID :Run Order: **HGCV201-H_180620B: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-006AMSD** Method: **SW7471B**
Analysis Date: **06/20/18 16:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.63	0.10	0.4518	0.1952	97	80	120	0.6098	3.5	20	

Associated samples: **H18060190-006A, H18060190-009A, H18060190-012A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41891

Run ID :Run Order: **HGCV201-H_180620B: 56** SampType: **Method Blank** Lab ID: **MB-41891** Method: **SW7471B**
Analysis Date: **06/20/18 17:35** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18060190-007A, H18060190-010A, H18060190-013A**

Run ID :Run Order: **HGCV201-H_180620B: 57** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41891** Method: **SW7471B**
Analysis Date: **06/20/18 17:37** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.192	0	**108**	80	120				

Associated samples: **H18060190-007A, H18060190-010A, H18060190-013A**

Run ID :Run Order: **HGCV201-H_180620B: 58** SampType: **Laboratory Control Sample** Lab ID: **LCS-41891** Method: **SW7471B**
Analysis Date: **06/20/18 17:42** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0	**112**	71	126.4				

Associated samples: **H18060190-007A, H18060190-010A, H18060190-013A**

Run ID :Run Order: **HGCV201-H_180620B: 61** SampType: **Sample Matrix Spike** Lab ID: **H18060190-007AMS** Method: **SW7471B**
Analysis Date: **06/20/18 17:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.29	0.10	0.2638	0.04073	**94**	80	120				

Associated samples: **H18060190-007A, H18060190-010A, H18060190-013A**

Run ID :Run Order: **HGCV201-H_180620B: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-007AMSD** Method: **SW7471B**
Analysis Date: **06/20/18 17:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.2502	0.04073	**91**	80	120	0.2878	**6.7**	20	

Associated samples: **H18060190-007A, H18060190-010A, H18060190-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41892

Run ID :Run Order: **HGCV201-H_180620B: 84** SampType: **Method Blank** Lab ID: **MB-41892** Method: **SW7471B**
Analysis Date: **06/20/18 18:34** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18060190-008A, H18060190-011A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 85** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41892** Method: **SW7471B**
Analysis Date: **06/20/18 18:36** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.192	0	**106**	80	120				

Associated samples: **H18060190-008A, H18060190-011A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 86** SampType: **Laboratory Control Sample** Lab ID: **LCS-41892** Method: **SW7471B**
Analysis Date: **06/20/18 18:38** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.7	0.50	5	0	**113**	71	126.4				

Associated samples: **H18060190-008A, H18060190-011A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 89** SampType: **Sample Matrix Spike** Lab ID: **H18060190-008AMS** Method: **SW7471B**
Analysis Date: **06/20/18 18:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.2567	0.007798	**101**	80	120				

Associated samples: **H18060190-008A, H18060190-011A, H18060190-014A**

Run ID :Run Order: **HGCV201-H_180620B: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-008AMSD** Method: **SW7471B**
Analysis Date: **06/20/18 18:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.2541	0.007798	**102**	80	120	0.266	**0.3**	20	

Associated samples: **H18060190-008A, H18060190-011A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180619A: 20** SampType: **Method Blank** Lab ID: **MB-41893** Method: **SW6010B**

Analysis Date: **06/19/18 14:12** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4	2									
Boron	0.4	0.2									
Copper	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180619A: 21** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41893** Method: **SW6010B**

Analysis Date: **06/19/18 14:16** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	256	5.0	242.8	3.769	104	80	120				
Boron	48.8	1.0	48.55	0.3579	100	80	120				
Copper	49.3	1.0	48.55	0	102	80	120				
Iron	253	11	242.8	0	104	80	120				
Manganese	244	1.0	242.8	0	101	80	120				
Zinc	48.0	1.0	48.55	0	99	80	120				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180619A: 22** SampType: **Laboratory Control Sample** Lab ID: **LCS-41893** Method: **SW6010B**

Analysis Date: **06/19/18 14:20** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10500	9.6	9830	3.769	106	46.3	130.2				
Boron	108	1.0	129	0.3579	83	59.5	106.2				
Copper	126	2.7	137	0	92	76.6	108.8				
Iron	16800	53	16300	0	103	51.7	131.9				
Manganese	425	1.0	434	0	98	81.1	116.6				
Zinc	231	2.9	231	0	100	75.3	111.7				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180619A: 37** SampType: **Serial Dilution** Lab ID: **H18060190-007ADIL** Method: **SW6010B**

Analysis Date: **06/19/18 15:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5090	66		0		0	0	5319	4.3	10	
Boron	ND	6.3		0		0	0	2.219		10	
Copper	27.8	19		0		0	0	34.99		10	N
Iron	21800	370		0		0	0	20920	4.0	10	
Manganese	193	5.7		0		0	0	189.4	1.8	10	
Zinc	102	20		0		0	0	92.49		10	N

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180619A: 38** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-007APDS** Method: **SW6010B**

Analysis Date: **06/19/18 15:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6790	14	1733	5319	85	75	125				
Boron	336	1.3	346.7	2.219	96	75	125				
Copper	365	3.8	346.7	34.99	95	75	125				
Iron	22600	75	1733	20920		75	125				A
Manganese	1850	1.2	1733	189.4	96	75	125				
Zinc	432	4.2	346.7	92.49	98	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180619A: 39** SampType: **Sample Matrix Spike** Lab ID: **H18060190-007AMS** Method: **SW6010B**

Analysis Date: **06/19/18 15:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6120	13	330.1	5319		75	125				A
Boron	65.4	1.2	66.02	2.219	96	75	125				
Copper	116	3.6	66.02	34.99	123	75	125				
Iron	17800	72	330.1	20920		75	125				A
Manganese	588	1.1	330.1	189.4	121	75	125				
Zinc	195	4.0	66.02	92.49	155	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180619A: 39** SampType: **Sample Matrix Spike** Lab ID: **H18060190-007AMS** Method: **SW6010B**

Analysis Date: **06/19/18 15:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180619A: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-007AMSD** Method: **SW6010B**

Analysis Date: **06/19/18 15:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6130	13	327.1	5319		75	125	6120	**0.1**	20	A
Boron	65.7	1.2	65.41	2.219	**97**	75	125	65.41	**0.5**	20	
Copper	102	3.6	65.41	34.99	**102**	75	125	116.2	**13**	20	
Iron	17700	71	327.1	20920		75	125	17800	**0.7**	20	A
Manganese	529	1.1	327.1	189.4	**104**	75	125	588.5	**11**	20	
Zinc	167	3.9	65.41	92.49	**114**	75	125	195.1	**15**	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 41** SampType: **Method Blank** Lab ID: **MB-41893** Method: **SW6010B**

Analysis Date: **06/20/18 12:16** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4	2									
Boron	ND	0.2									
Copper	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180620A: 43** SampType: **Serial Dilution** Lab ID: **H18060190-008ADIL** Method: **SW6010B**

Analysis Date: **06/20/18 12:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2650	64		0		0	0	2656	0.3	10	
Boron	ND	6.1		0		0	0	1.535		10	
Copper	19.9	18		0		0	0	12.5		10	N
Iron	4750	350		0		0	0	4803	1.2	10	
Manganese	196	5.4		0		0	0	198.5	1.1	10	
Zinc	100	20		0		0	0	98.04		10	N

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 44** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-008APDS** Method: **SW6010B**

Analysis Date: **06/20/18 12:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4380	13	1669	2656	103	75	125				
Boron	316	1.3	333.7	1.535	94	75	125				
Copper	349	3.7	333.7	12.5	101	75	125				
Iron	6360	73	1669	4803	94	75	125				
Manganese	1860	1.1	1669	198.5	99	75	125				
Zinc	412	4.0	333.7	98.04	94	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18060190-008AMS** Method: **SW6010B**

Analysis Date: **06/20/18 12:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3560	13	320.8	2656		75	125				A
Boron	67.4	1.2	64.16	1.535	103	75	125				
Copper	93.7	3.5	64.16	12.5	127	75	125				S
Iron	6200	70	320.8	4803		75	125				A
Manganese	506	1.1	320.8	198.5	96	75	125				
Zinc	98.0	3.9	64.16	98.04	0	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180620A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18060190-008AMS** Method: **SW6010B**

Analysis Date: **06/20/18 12:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180620A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-008AMSD** Method: **SW6010B**

Analysis Date: **06/20/18 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3410	13	324	2656		75	125	3558	**4.1**	20	A
Boron	68.1	1.2	64.81	1.535	**103**	75	125	67.39	**1.0**	20	
Copper	82.2	3.6	64.81	12.5	**108**	75	125	93.69	**13**	20	
Iron	5190	70	324	4803		75	125	6199	**18**	20	A
Manganese	533	1.1	324	198.5	**103**	75	125	506.2	**5.2**	20	
Zinc	93.2	3.9	64.81	98.04	**-7**	75	125	98.04	**5.0**	20	S

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180620A: 61** SampType: **Serial Dilution** Lab ID: **H18060190-012ADIL** Method: **SW6010B**

Analysis Date: **06/20/18 13:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40200	130		0		0	0	36090	**11**	10	R
Boron	ND	12		0		0	0	8.491		10	
Copper	104	35		0		0	0	105.1		10	N
Iron	32200	700		0		0	0	28410	**12**	10	R
Manganese	647	11		0		0	0	573.2	**12**	10	R
Zinc	160	39		0		0	0	156.6		10	N

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180620A: 62** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-012APDS** Method: **SW6010B**

Analysis Date: **06/20/18 13:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41800	26	3296	36090		75	125				A
Boron	573	2.5	659.3	8.491	86	75	125				
Copper	740	7.3	659.3	105.1	96	75	125				
Iron	32700	140	3296	28410		75	125				A
Manganese	3700	2.2	3296	573.2	95	75	125				
Zinc	716	7.9	659.3	156.6	85	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 63** SampType: **Sample Matrix Spike** Lab ID: **H18060190-012AMS** Method: **SW6010B**

Analysis Date: **06/20/18 13:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42200	24	621.3	36090		75	125				A
Boron	121	2.3	124.3	8.491	91	75	125				
Copper	231	6.8	124.3	105.1	101	75	125				
Iron	30500	140	621.3	28410		75	125				A
Manganese	1200	2.1	621.3	573.2	102	75	125				
Zinc	274	7.5	124.3	156.6	95	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 64** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-012AMSD** Method: **SW6010B**

Analysis Date: **06/20/18 13:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41700	24	621.3	36090		75	125	42190	1.2	20	A
Boron	124	2.3	124.3	8.491	93	75	125	121.4	2.2	20	
Copper	234	6.8	124.3	105.1	104	75	125	230.9	1.4	20	
Iron	30500	140	621.3	28410		75	125	30480	0.0	20	A
Manganese	1220	2.1	621.3	573.2	104	75	125	1204	1.4	20	
Zinc	285	7.5	124.3	156.6	104	75	125	274.2	4.0	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICP2-HE_180621B: 17** SampType: **Method Blank** Lab ID: **MB-41893** Method: **SW6010B**

Analysis Date: **06/21/18 17:54** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4	2									
Boron	0.3	0.2									
Copper	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 65** SampType: **Method Blank** Lab ID: **MB-41893** Method: **SW6020**

Analysis Date: **06/19/18 11:39** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	ND	0.07									
Selenium	ND	0.07									
Silver	0.09	0.03									
Uranium	ND	0.02									
Vanadium	0.1	0.07									

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 70** SampType: **Serial Dilution** Lab ID: **H18060190-007ADIL** Method: **SW6020**

Analysis Date: **06/19/18 11:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5060	100		0		0	0	4913	**2.8**	10	
Antimony	ND	5.7		0		0	0	0		10	
Arsenic	4.82	1.3		0		0	0	4.432		10	N
Barium	63.4	6.2		0		0	0	62.82	**1.0**	10	
Beryllium	ND	2.0		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.2274		10	
Calcium	3650	2900		0		0	0	3347		10	N
Chromium	22.7	4.1		0		0	0	22.23		10	N
Cobalt	ND	6.3		0		0	0	3.735		10	
Lead	25.9	2.5		0		0	0	26.05	**0.5**	10	
Molybdenum	1.19	1.1		0		0	0	1.233		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 70** SampType: **Serial Dilution** Lab ID: **H18060190-007ADIL** Method: **SW6020**

Analysis Date: **06/19/18 11:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	5.02	2.5		0		0	0	4.944		10	N
Selenium	ND	2.3		0		0	0	0		10	
Silver	ND	1.1		0		0	0	0		10	
Uranium	4.68	1.0		0		0	0	4.623		10	N
Vanadium	70.1	2.5		0		0	0	68.59	2.2	10	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 71** SampType: **Laboratory Control Sample** Lab ID: **LCS-41893** Method: **SW6020**

Analysis Date: **06/19/18 11:51** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10200	15	9830	3.919	103	46.3	130.2				
Antimony	79.7	1.0	240	0	33	0	92.9				
Arsenic	171	1.0	196	0	87	71.4	105.1				
Barium	188	1.0	187	0	100	78.6	112.8				
Beryllium	73.3	1.0	83.6	0	88	76.2	108				
Cadmium	99.5	1.0	99	0	101	73.9	106.1				
Calcium	5310	430	6360	0	83	78.9	113.5				
Chromium	114	1.0	117	0	97	73.5	108.5				
Cobalt	109	1.0	108	0	101	74.2	105.6				
Lead	106	1.0	105	0	101	74.4	108.6				
Molybdenum	122	1.0	127	0	96	66.5	103.1				
Nickel	81.9	1.0	86.2	0	95	72.3	105				
Selenium	195	1.0	205	0	95	71.2	110.2				
Silver	42.1	1.0	42.1	0.08868	100	70.8	111.9				
Uranium	91.0	1.0	99.9	0	91	80.1	120.1				
Vanadium	113	1.0	114	0.1073	99	67	107				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 72** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41893** Method: **SW6020**

Analysis Date: **06/19/18 11:53** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	250	15	242.8	3.919	101	80	120				
Antimony	51.9	1.0	48.55	0	107	80	120				
Arsenic	50.2	1.0	48.55	0	103	80	120				
Barium	50.5	1.0	48.55	0	104	80	120				
Beryllium	24.0	1.0	24.27	0	99	80	120				
Cadmium	25.2	1.0	24.27	0	104	80	120				
Calcium	2170	420	2428	0	89	80	120				
Chromium	50.5	1.0	48.55	0	104	80	120				
Cobalt	50.8	1.0	48.55	0	105	80	120				
Lead	49.9	1.0	48.55	0	103	80	120				
Molybdenum	49.2	1.0	48.55	0	101	80	120				
Nickel	50.6	1.0	48.55	0	104	80	120				
Selenium	49.5	1.0	48.55	0	102	80	120				
Silver	25.4	1.0	24.27	0.08868	104	80	120				
Uranium	47.1	1.0	48.55	0	97	80	120				
Vanadium	49.9	1.0	48.55	0.1073	103	80	120				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 73** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-007APDS1** Method: **SW6020**

Analysis Date: **06/19/18 11:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4840	21	33.66	4913		75	125				A
Antimony	35.2	1.1	33.66	0	105	75	125				
Arsenic	37.3	1.0	33.66	4.432	98	75	125				
Barium	95.8	1.2	33.66	62.82	98	75	125				
Beryllium	30.2	1.0	33.66	0	90	75	125				
Cadmium	33.9	1.0	33.66	0.2274	100	75	125				
Calcium	3790	590	673.1	3347		75	125				A
Chromium	55.0	1.0	33.66	22.23	98	75	125				
Cobalt	36.9	1.3	33.66	3.735	99	75	125				
Lead	59.0	1.0	33.66	26.05	98	75	125				
Molybdenum	34.8	1.0	33.66	1.233	100	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 73** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-007APDS1** Method: **SW6020**

Analysis Date: **06/19/18 11:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	38.0	1.0	33.66	4.944	**98**	75	125				
Selenium	32.2	1.0	33.66	0	**96**	75	125				
Silver	13.9	1.0	13.46	0	**103**	75	125				
Uranium	35.9	1.0	33.66	4.623	**93**	75	125				
Vanadium	100	1.0	33.66	68.59	**95**	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 74** SampType: **Sample Matrix Spike** Lab ID: **H18060190-007AMS** Method: **SW6020**

Analysis Date: **06/19/18 11:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5900	21	330.1	4913		75	125				AE
Antimony	51.2	1.1	66.02	0	**77**	75	125				
Arsenic	71.6	1.0	66.02	4.432	**102**	75	125				
Barium	135	1.2	66.02	62.82	**110**	75	125				
Beryllium	31.4	1.0	33.01	0	**95**	75	125				
Cadmium	34.7	1.0	33.01	0.2274	**105**	75	125				
Calcium	6110	570	3301	3347	**84**	75	125				E
Chromium	83.4	1.0	66.02	22.23	**93**	75	125				
Cobalt	70.8	1.2	66.02	3.735	**102**	75	125				
Lead	87.7	1.0	66.02	26.05	**93**	75	125				
Molybdenum	69.1	1.0	66.02	1.233	**103**	75	125				
Nickel	71.9	1.0	66.02	4.944	**101**	75	125				
Selenium	66.3	1.0	66.02	0	**100**	75	125				
Silver	34.6	1.0	33.01	0	**105**	75	125				
Uranium	66.0	1.0	66.02	4.623	**93**	75	125				
Vanadium	122	1.0	66.02	68.59	**81**	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 75** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-007AMSD** Method: **SW6020**

Analysis Date: **06/19/18 11:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5900	20	327.1	4913		75	125	5902	**0.0**	20	AE
Antimony	48.8	1.1	65.41	0	**75**	75	125	51.16	**4.7**	20	
Arsenic	70.8	1.0	65.41	4.432	**102**	75	125	71.56	**1.0**	20	
Barium	139	1.2	65.41	62.82	**116**	75	125	135.1	**2.5**	20	
Beryllium	30.4	1.0	32.71	0	**93**	75	125	31.45	**3.5**	20	
Cadmium	33.9	1.0	32.71	0.2274	**103**	75	125	34.73	**2.6**	20	
Calcium	6030	570	3271	3347	**82**	75	125	6110	**1.3**	20	E
Chromium	82.5	1.0	65.41	22.23	**92**	75	125	83.37	**1.0**	20	
Cobalt	71.6	1.2	65.41	3.735	**104**	75	125	70.77	**1.1**	20	
Lead	83.2	1.0	65.41	26.05	**87**	75	125	87.72	**5.3**	20	
Molybdenum	66.8	1.0	65.41	1.233	**100**	75	125	69.12	**3.3**	20	
Nickel	72.0	1.0	65.41	4.944	**103**	75	125	71.89	**0.2**	20	
Selenium	65.2	1.0	65.41	0	**100**	75	125	66.28	**1.6**	20	
Silver	33.1	1.0	32.71	0	**101**	75	125	34.55	**4.2**	20	
Uranium	65.5	1.0	65.41	4.623	**93**	75	125	66.02	**0.8**	20	
Vanadium	124	1.0	65.41	68.59	**85**	75	125	122.2	**1.7**	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 81** SampType: **Serial Dilution** Lab ID: **H18060190-008ADIL** Method: **SW6020**

Analysis Date: **06/19/18 12:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2560	100		0		0	0	2539	**0.9**	10	
Antimony	ND	5.5		0		0	0	0		10	
Arsenic	3.10	1.2		0		0	0	3.203		10	N
Barium	32.6	6.0		0		0	0	32.69		10	N
Beryllium	ND	1.9		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.1375		10	
Calcium	ND	2800		0		0	0	1094		10	
Chromium	4.23	3.9		0		0	0	4.288		10	N
Cobalt	ND	6.1		0		0	0	1.465		10	
Lead	8.45	2.4		0		0	0	8.716		10	N
Molybdenum	ND	1.1		0		0	0	0.5029		10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 81** SampType: **Serial Dilution** Lab ID: **H18060190-008ADIL** Method: **SW6020**

Analysis Date: **06/19/18 12:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	2.4		0		0	0	2.069		10	
Selenium	ND	2.3		0		0	0	0		10	
Silver	ND	1.1		0		0	0	0		10	
Uranium	1.14	1.0		0		0	0	1.16		10	N
Vanadium	14.1	2.4		0		0	0	13.47		10	N

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 85** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-008APDS1** Method: **SW6020**

Analysis Date: **06/19/18 12:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2550	20	32.4	2539		75	125				A
Antimony	35.3	1.1	32.4	0	109	75	125				
Arsenic	35.9	1.0	32.4	3.203	101	75	125				
Barium	66.5	1.2	32.4	32.69	104	75	125				
Beryllium	30.5	1.0	32.4	0	94	75	125				
Cadmium	34.0	1.0	32.4	0.1375	105	75	125				
Calcium	1580	560	648.1	1094	74	75	125				S
Chromium	37.3	1.0	32.4	4.288	102	75	125				
Cobalt	34.4	1.2	32.4	1.465	102	75	125				
Lead	41.7	1.0	32.4	8.716	102	75	125				
Molybdenum	34.4	1.0	32.4	0.5029	105	75	125				
Nickel	35.1	1.0	32.4	2.069	102	75	125				
Selenium	32.4	1.0	32.4	0	100	75	125				
Silver	13.9	1.0	12.96	0	107	75	125				
Uranium	32.0	1.0	32.4	1.16	95	75	125				
Vanadium	46.0	1.0	32.4	13.47	100	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 86** SampType: **Sample Matrix Spike** Lab ID: **H18060190-008AMS** Method: **SW6020**

Analysis Date: **06/19/18 12:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3300	20	320.8	2539		75	125				AE
Antimony	60.0	1.1	64.16	0	94	75	125				
Arsenic	69.4	1.0	64.16	3.203	103	75	125				
Barium	91.5	1.2	64.16	32.69	92	75	125				
Beryllium	29.3	1.0	32.08	0	91	75	125				
Cadmium	32.8	1.0	32.08	0.1375	102	75	125				
Calcium	4240	560	3208	1094	98	75	125				E
Chromium	70.3	1.0	64.16	4.288	103	75	125				
Cobalt	67.0	1.2	64.16	1.465	102	75	125				
Lead	73.6	1.0	64.16	8.716	101	75	125				
Molybdenum	67.1	1.0	64.16	0.5029	104	75	125				
Nickel	67.9	1.0	64.16	2.069	103	75	125				
Selenium	63.7	1.0	64.16	0	99	75	125				
Silver	32.7	1.0	32.08	0	102	75	125				
Uranium	62.7	1.0	64.16	1.16	96	75	125				
Vanadium	80.3	1.0	64.16	13.47	104	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 87** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-008AMSD** Method: **SW6020**

Analysis Date: **06/19/18 12:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3200	20	324	2539		75	125	3295	2.9	20	AE
Antimony	63.2	1.1	64.81	0	98	75	125	60.02	5.2	20	
Arsenic	75.4	1.0	64.81	3.203	111	75	125	69.36	8.3	20	
Barium	97.0	1.2	64.81	32.69	99	75	125	91.5	5.9	20	
Beryllium	30.7	1.0	32.4	0	95	75	125	29.26	4.9	20	
Cadmium	34.4	1.0	32.4	0.1375	106	75	125	32.79	4.8	20	
Calcium	4260	560	3240	1094	98	75	125	4240	0.5	20	E
Chromium	73.6	1.0	64.81	4.288	107	75	125	70.32	4.5	20	
Cobalt	70.7	1.2	64.81	1.465	107	75	125	66.99	5.4	20	
Lead	76.3	1.0	64.81	8.716	104	75	125	73.6	3.6	20	
Molybdenum	68.6	1.0	64.81	0.5029	105	75	125	67.05	2.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 87** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-008AMSD** Method: **SW6020**

Analysis Date: **06/19/18 12:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	70.4	1.0	64.81	2.069	106	75	125	67.89	3.7	20	
Selenium	66.6	1.0	64.81	0	103	75	125	63.67	4.5	20	
Silver	34.3	1.0	32.4	0	106	75	125	32.67	5.0	20	
Uranium	67.7	1.0	64.81	1.16	103	75	125	62.75	7.5	20	
Vanadium	85.7	1.0	64.81	13.47	112	75	125	80.33	6.5	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 93** SampType: **Serial Dilution** Lab ID: **H18060190-012ADIL** Method: **SW6020**

Analysis Date: **06/19/18 12:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	37000	200		0		0	0	37110	0.2	10	
Antimony	ND	11		0		0	0	0		10	
Arsenic	63.6	2.5		0		0	0	63.28	0.5	10	
Barium	306	12		0		0	0	310.8	1.7	10	
Beryllium	ND	3.8		0		0	0	1.827		10	
Cadmium	1.47	1.1		0		0	0	1.443		10	N
Calcium	12500	5600		0		0	0	11210		10	N
Chromium	62.1	7.7		0		0	0	62.36		10	N
Cobalt	ND	12		0		0	0	12.07		10	
Lead	53.2	4.7		0		0	0	53.91	1.2	10	
Molybdenum	ND	2.1		0		0	0	1.534		10	
Nickel	34.6	4.8		0		0	0	35		10	N
Selenium	ND	4.5		0		0	0	2.316		10	
Silver	ND	2.2		0		0	0	0.5103		10	
Uranium	4.31	1.3		0		0	0	4.433		10	N
Vanadium	65.9	4.7		0		0	0	66.07	0.3	10	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 97** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060190-012APDS1** Method: **SW6020**

Analysis Date: **06/19/18 12:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	35400	40	64.01	37110		75	125				A
Antimony	67.6	2.2	64.01	0	106	75	125				
Arsenic	127	1.0	64.01	63.28	99	75	125				
Barium	366	2.4	64.01	310.8		75	125				A
Beryllium	57.5	1.0	64.01	1.827	87	75	125				
Cadmium	65.4	1.0	64.01	1.443	100	75	125				
Calcium	12100	1100	1280	11210		75	125				A
Chromium	126	1.5	64.01	62.36	99	75	125				
Cobalt	76.5	2.4	64.01	12.07	101	75	125				
Lead	115	1.0	64.01	53.91	95	75	125				
Molybdenum	65.5	1.0	64.01	1.534	100	75	125				
Nickel	97.9	1.0	64.01	35	98	75	125				
Selenium	65.8	1.0	64.01	2.316	99	75	125				
Silver	26.5	1.0	25.6	0.5103	102	75	125				
Uranium	62.8	1.0	64.01	4.433	91	75	125				
Vanadium	129	1.0	64.01	66.07	98	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICPMS205-H_180619B: 98** SampType: **Sample Matrix Spike** Lab ID: **H18060190-012AMS** Method: **SW6020**

Analysis Date: **06/19/18 12:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43100	39	621.3	37110		75	125				AE
Antimony	49.6	2.1	124.3	0	40	75	125				S
Arsenic	195	1.0	124.3	63.28	106	75	125				
Barium	482	2.3	124.3	310.8	138	75	125				S
Beryllium	59.9	1.0	62.13	1.827	94	75	125				
Cadmium	67.4	1.0	62.13	1.443	106	75	125				
Calcium	16800	1100	6213	11210	90	75	125				E
Chromium	202	1.5	124.3	62.36	113	75	125				
Cobalt	144	2.3	124.3	12.07	106	75	125				
Lead	188	1.0	124.3	53.91	108	75	125				
Molybdenum	130	1.0	124.3	1.534	104	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: 41893

Run ID :Run Order: **ICPMS205-H_180619B: 98** SampType: **Sample Matrix Spike** Lab ID: **H18060190-012AMS** Method: **SW6020**

Analysis Date: **06/19/18 12:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	170	1.0	124.3	35	109	75	125				
Selenium	129	1.0	124.3	2.316	102	75	125				
Silver	66.6	1.0	62.13	0.5103	106	75	125				
Uranium	127	1.0	124.3	4.433	99	75	125				
Vanadium	202	1.0	124.3	66.07	110	75	125				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180619B: 99** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-012AMSD** Method: **SW6020**

Analysis Date: **06/19/18 12:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42200	39	621.3	37110		75	125	43090	2.1	20	AE
Antimony	48.2	2.1	124.3	0	39	75	125	49.6	2.9	20	S
Arsenic	189	1.0	124.3	63.28	102	75	125	195.3	3.0	20	
Barium	454	2.3	124.3	310.8	115	75	125	481.7	5.9	20	
Beryllium	58.2	1.0	62.13	1.827	91	75	125	59.94	2.9	20	
Cadmium	64.6	1.0	62.13	1.443	102	75	125	67.42	4.2	20	
Calcium	16800	1100	6213	11210	90	75	125	16800	0.1	20	E
Chromium	196	1.5	124.3	62.36	107	75	125	202.3	3.4	20	
Cobalt	140	2.3	124.3	12.07	103	75	125	144.1	3.0	20	
Lead	181	1.0	124.3	53.91	102	75	125	187.6	3.7	20	
Molybdenum	124	1.0	124.3	1.534	98	75	125	130.3	5.2	20	
Nickel	164	1.0	124.3	35	104	75	125	170.3	3.7	20	
Selenium	127	1.0	124.3	2.316	101	75	125	128.8	1.1	20	
Silver	63.7	1.0	62.13	0.5103	102	75	125	66.62	4.5	20	
Uranium	120	1.0	124.3	4.433	93	75	125	127	5.3	20	
Vanadium	196	1.0	124.3	66.07	105	75	125	202.4	3.1	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_122530

Run ID :Run Order: **SUB-B302351: 3** SampType: **Method Blank** Lab ID: **MB-122530** Method: **E245.1**
Analysis Date: **06/19/18 10:51** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5E-05	2E-06									

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Run ID :Run Order: **SUB-B302351: 4** SampType: **Laboratory Control Sample** Lab ID: **LCS-122530** Method: **E245.1**
Analysis Date: **06/19/18 10:54** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000209	0.00010	0.0002	0.00000284	103	85	115	0			

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Run ID :Run Order: **SUB-B302351: 6** SampType: **Sample Matrix Spike** Lab ID: **B18060735-001BMS** Method: **E245.1**
Analysis Date: **06/19/18 11:00** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000232	0.00010	0.0002	0	116	70	130	0			

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Run ID :Run Order: **SUB-B302351: 7** SampType: **Sample Matrix Spike Duplicate** Lab ID: **B18060735-001BMSD** Method: **E245.1**
Analysis Date: **06/19/18 11:03** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000210	0.00010	0.0002	0	105	70	130	0.000232	10.0	30	

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Run ID :Run Order: **SUB-B302351: 47** SampType: **Sample Matrix Spike** Lab ID: **H18060183-029C** Method: **E245.1**
Analysis Date: **06/19/18 12:18** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000200	0.00010	0.0002	0	100	70	130	0			

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_122530

Run ID :Run Order: **SUB-B302351: 48** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060183-029C** Method: **E245.1**

Analysis Date: **06/19/18 12:21** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000203	0.00010	0.0002	0	**102**	70	130	0.0002	**1.5**	30	

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_122622

Run ID :Run Order: **SUB-B302511: 10** SampType: **Method Blank** Lab ID: **MB-122622** Method: **E245.1**
Analysis Date: **06/21/18 12:02** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060190-001C**

Run ID :Run Order: **SUB-B302511: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-122622** Method: **E245.1**
Analysis Date: **06/21/18 12:04** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000228	0.00010	0.0002	0	**114**	85	115	0			

Associated samples: **H18060190-001C**

Run ID :Run Order: **SUB-B302511: 22** SampType: **Sample Matrix Spike** Lab ID: **H18060183-018C** Method: **E245.1**
Analysis Date: **06/21/18 12:58** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000213	0.00010	0.0002	0	**107**	70	130	0			

Associated samples: **H18060190-001C**

Run ID :Run Order: **SUB-B302511: 23** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060183-018C** Method: **E245.1**
Analysis Date: **06/21/18 13:01** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000211	0.00010	0.0002	0	**106**	70	130	0	**0.0**	30	

Associated samples: **H18060190-001C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_122719

Run ID :Run Order: **SUB-B302605: 2** SampType: **Method Blank** Lab ID: **MB-122719** Method: **E245.1**
Analysis Date: **06/22/18 10:59** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060190-002B, H18060190-002C**

Run ID :Run Order: **SUB-B302605: 3** SampType: **Laboratory Control Sample** Lab ID: **LCS-122719** Method: **E245.1**
Analysis Date: **06/22/18 11:02** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000212	0.00010	0.0002	0	**106**	85	115	0			

Associated samples: **H18060190-002B, H18060190-002C**

Run ID :Run Order: **SUB-B302605: 12** SampType: **Sample Matrix Spike** Lab ID: **B18061454-017DMS** Method: **E245.1**
Analysis Date: **06/22/18 11:31** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000219	0.00010	0.0002	0.00000467	**107**	70	130	0			

Associated samples: **H18060190-002B, H18060190-002C**

Run ID :Run Order: **SUB-B302605: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **B18061454-017DMSD** Method: **E245.1**
Analysis Date: **06/22/18 11:34** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000215	0.00010	0.0002	0.00000467	**105**	70	130	0.000219	**1.8**	30	

Associated samples: **H18060190-002B, H18060190-002C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_180619Z

Run ID :Run Order: **SUB-B302351: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/19/18 10:42** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000197	0.00010	0.0002	0	98	90	110	0			

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Run ID :Run Order: **SUB-B302351: 2** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/19/18 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000100	0.00010	0.0001	0	100	95	105	0			

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Run ID :Run Order: **SUB-B302351: 45** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**

Analysis Date: **06/19/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	101	90	110	0			

Associated samples: **H18060190-001B, H18060190-003B, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_180621Z

Run ID :Run Order: **SUB-B302511: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/21/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000202	0.00010	0.0002	0	**101**	90	110	0			

Associated samples: **H18060190-001C**

Run ID :Run Order: **SUB-B302511: 12** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**

Analysis Date: **06/21/18 12:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.81E-05	0.00010	0.0001	0	**98**	90	110	0			

Associated samples: **H18060190-001C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: B_180622Z

Run ID :Run Order: **SUB-B302605: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/22/18 10:50** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000208	0.00010	0.0002	0	**104**	90	110	0			

Associated samples: **H18060190-002B, H18060190-002C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135427

Run ID :Run Order: **PHSC_101-H_180611A: 13** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **06/11/18 09:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **PHSC_101-H_180611A: 14** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **06/11/18 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	**96**	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **PHSC_101-H_180611A: 17** SampType: **Sample Duplicate** Lab ID: **H18060193-001ADUP** Method: **A2320 B**

Analysis Date: **06/11/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	39	4.0		0				38.9	**1.0**	10	
Bicarbonate as HCO3	47	4.0		0				46.85	**1.0**	10	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **PHSC_101-H_180611A: 57** SampType: **Sample Duplicate** Lab ID: **H18060182-015ADUP** Method: **A2320 B**

Analysis Date: **06/11/18 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	50	4.0		0				49.8	**1.3**	10	
Bicarbonate as HCO3	61	4.0		0				60.15	**1.3**	10	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135443

Run ID :Run Order: **FIA203-HE_180611B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **06/11/18 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180611B: 11** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **06/11/18 09:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.010	1	0	**109**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180611B: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **06/11/18 09:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.980	0.011	1	0.07426	**91**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180611B: 107** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **06/11/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.485	0.010	0.5	0	**97**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180611B: 109** SampType: **Sample Matrix Spike** Lab ID: **H18060183-026BMS** Method: **E353.2**
Analysis Date: **06/11/18 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.969	0.011	1	0	**97**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135443

Run ID :Run Order: **FIA203-HE_180611B: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060183-026BMSD** Method: **E353.2**

Analysis Date: **06/11/18 11:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.960	0.011	1	0	**96**	90	110	0.9686	**0.9**	10	

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180611B: 123** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003DMS** Method: **E353.2**

Analysis Date: **06/11/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.53	0.011	1	0.5389	**99**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180611B: 124** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003DMSD** Method: **E353.2**

Analysis Date: **06/11/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.51	0.011	1	0.5389	**97**	90	110	1.531	**1.2**	10	

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135463

Run ID :Run Order: **FIA203-HE_180611C: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.480	0.10	0.5	0	96	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **FIA203-HE_180611C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0118	0.10		0		0	0				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **FIA203-HE_180611C: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.471	0.10	0.5	0	94	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/11/18 13:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.795	0.10	0.8	0	99	95	105				
Calcium	39.5	1.0	40	0	99	95	105				
Magnesium	38.9	1.0	40	0	97	95	105				
Potassium	41.3	1.0	40	0	103	95	105				
Sodium	41.4	1.0	40	0	103	95	105				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/11/18 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	95	105				
Calcium	24.6	1.0	25	0	99	95	105				
Magnesium	24.0	1.0	25	0	96	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.8	1.0	25	0	103	95	105				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/11/18 13:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00635	0.10		0		0	0				
Calcium	458	1.0	500	0	92	80	120				
Magnesium	507	1.0	500	0	101	80	120				
Potassium	-0.0260	1.0		0		0	0				
Sodium	0.0206	1.0		0		0	0				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/11/18 13:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.940	0.10	1	0	94	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/11/18 13:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	459	1.0	500	0	92	80	120				
Magnesium	506	1.0	500	0	101	80	120				
Potassium	20.4	1.0	20	0	102	80	120				
Sodium	20.5	1.0	20	0	102	80	120				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 13** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **06/11/18 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **06/11/18 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.957	0.10	1	0	96	85	115				
Calcium	48.7	1.0	50	0	97	85	115				
Magnesium	48.2	1.0	50	0	96	85	115				
Potassium	50.2	1.0	50	0	100	85	115				
Sodium	50.1	1.0	50	0	100	85	115				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 90** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/11/18 20:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.60	0.10	2.5	0	104	90	110				
Calcium	25.4	1.0	25	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 90** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/11/18 20:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	25.3	1.0	25	0	101	90	110				
Potassium	26.3	1.0	25	0	105	90	110				
Sodium	26.4	1.0	25	0	105	90	110				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 97** SampType: **Sample Matrix Spike** Lab ID: **H18060190-001BMS2** Method: **E200.7**

Analysis Date: **06/11/18 20:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.050	1	0.03199	97	70	130				
Calcium	73.6	1.0	50	21.6	104	70	130				
Magnesium	58.3	1.0	50	5.2	106	70	130				
Potassium	56.6	1.0	50	2.242	109	70	130				
Sodium	62.6	1.0	50	8.142	109	70	130				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICP2-HE_180611C: 98** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-001BMSD2** Method: **E200.7**

Analysis Date: **06/11/18 20:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.03199	98	70	130	1.001	1.1	20	
Calcium	73.5	1.0	50	21.6	104	70	130	73.56	0.0	20	
Magnesium	57.9	1.0	50	5.2	105	70	130	58.3	0.6	20	
Potassium	55.3	1.0	50	2.242	106	70	130	56.63	2.4	20	
Sodium	61.3	1.0	50	8.142	106	70	130	62.64	2.2	20	

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/12/18 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.299	0.10	0.3	0	**100**	90	110				
Antimony	0.0618	0.050	0.06	0	**103**	90	110				
Arsenic	0.0602	0.0050	0.06	0	**100**	90	110				
Barium	0.0595	0.10	0.06	0	**99**	90	110				
Beryllium	0.0299	0.0010	0.03	0	**100**	90	110				
Cadmium	0.0303	0.0010	0.03	0	**101**	90	110				
Chromium	0.0600	0.010	0.06	0	**100**	90	110				
Cobalt	0.0603	0.010	0.06	0	**100**	90	110				
Copper	0.0601	0.010	0.06	0	**100**	90	110				
Iron	0.302	0.020	0.3	0	**101**	90	110				
Lead	0.0624	0.010	0.06	0	**104**	90	110				
Manganese	0.305	0.010	0.3	0	**102**	90	110				
Molybdenum	0.0596	0.0050	0.06	0	**99**	90	110				
Nickel	0.0605	0.010	0.06	0	**101**	90	110				
Selenium	0.0601	0.0050	0.06	0	**100**	90	110				
Silver	0.0297	0.0050	0.03	0	**99**	90	110				
Uranium	0.0592	0.0010	0.06	0	**99**	90	110				
Vanadium	0.0594	0.10	0.06	0	**99**	90	110				
Zinc	0.0611	0.010	0.06	0	**102**	90	110				

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/12/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.4	0.10	40	0	**106**	70	130				
Antimony	0.000500	0.050		0							
Arsenic	7.16E-05	0.0050		0							
Barium	0.000170	0.10		0							
Beryllium	4.46E-05	0.0010		0							
Cadmium	0.000144	0.0010		0							
Chromium	0.00123	0.010		0							
Cobalt	-4.78E-06	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/12/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000393	0.010		0							
Iron	101	0.020	100	0	101	70	130				
Lead	0.000372	0.010		0							
Manganese	0.000208	0.010		0							
Molybdenum	0.866	0.0050	0.8	0	108	70	130				
Nickel	0.000140	0.010		0							
Selenium	6.84E-05	0.0050		0							
Silver	0.000136	0.0050		0							
Uranium	1.74E-05	0.0010		0							
Vanadium	4.24E-05	0.10		0							
Zinc	0.000534	0.010		0							

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/12/18 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.8	0.10	40	0	104	70	130				
Antimony	0.000291	0.050		0		0	0				
Arsenic	0.0103	0.0050	0.01	0	103	70	130				
Barium	4.60E-05	0.10		0		0	0				
Beryllium	3.83E-06	0.0010		0		0	0				
Cadmium	0.0104	0.0010	0.01	0	104	70	130				
Chromium	0.0211	0.010	0.02	0	105	70	130				
Cobalt	0.0200	0.010	0.02	0	100	70	130				
Copper	0.0197	0.010	0.02	0	99	70	130				
Iron	100	0.020	100	0	100	70	130				
Lead	0.000338	0.010		0		0	0				
Manganese	0.0202	0.010	0.02	0	101	70	130				
Molybdenum	0.867	0.0050	0.8	0	108	70	130				
Nickel	0.0199	0.010	0.02	0	99	70	130				
Selenium	0.0102	0.0050	0.01	0	102	70	130				
Silver	0.0200	0.0050	0.02	0	100	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/12/18 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	7.06E-06	0.0010		0		0	0				
Vanadium	0.0198	0.10	0.02	0	99	70	130				
Zinc	0.0102	0.010	0.01	0	102	70	130				

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 20** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/12/18 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 21** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/12/18 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0510	0.10	0.05	0	102	85	115				
Antimony	0.0528	0.050	0.05	0	106	85	115				
Arsenic	0.0491	0.0050	0.05	0	98	85	115				
Barium	0.0491	0.10	0.05	0	98	85	115				
Beryllium	0.0467	0.0010	0.05	0	93	85	115				
Cadmium	0.0494	0.0010	0.05	0	99	85	115				
Chromium	0.0481	0.010	0.05	0	96	85	115				
Cobalt	0.0491	0.010	0.05	0	98	85	115				
Copper	0.0489	0.010	0.05	0	98	85	115				
Iron	0.146	0.020	0.15	0	98	85	115				
Lead	0.0494	0.010	0.05	0	99	85	115				
Manganese	0.0486	0.010	0.05	0	97	85	115				
Molybdenum	0.0489	0.0050	0.05	0	98	85	115				
Nickel	0.0487	0.010	0.05	0	97	85	115				
Selenium	0.0492	0.0050	0.05	0	98	85	115				
Silver	0.0197	0.0050	0.02	0	99	85	115				
Uranium	0.0484	0.0010	0.05	0	97	85	115				
Vanadium	0.0474	0.10	0.05	0	95	85	115				
Zinc	0.0493	0.010	0.05	0	99	85	115				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICPMS205-H_180612B: 33** SampType: **Sample Matrix Spike** Lab ID: **H18060226-001BMS** Method: **E200.8**

Analysis Date: **06/12/18 12:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.030	0.05	0	103	70	130				
Antimony	0.0562	0.0010	0.05	0	112	70	130				
Arsenic	0.0541	0.0010	0.05	0.001378	106	70	130				
Barium	0.0916	0.050	0.05	0.03961	104	70	130				
Beryllium	0.0513	0.0010	0.05	0	103	70	130				
Cadmium	0.0516	0.0010	0.05	0	103	70	130				
Chromium	0.0497	0.0050	0.05	0	99	70	130				
Cobalt	0.0496	0.0050	0.05	0	99	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 33** SampType: **Sample Matrix Spike** Lab ID: **H18060226-001BMS** Method: **E200.8**

Analysis Date: **06/12/18 12:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0778	0.0050	0.05	0.0287	98	70	130				
Iron	0.176	0.020	0.15	0.02649	100	70	130				
Lead	0.0519	0.0010	0.05	0.00006265	104	70	130				
Manganese	0.0529	0.0010	0.05	0.00296	100	70	130				
Molybdenum	0.0668	0.0010	0.05	0.01526	103	70	130				
Nickel	0.0537	0.0050	0.05	0.00408	99	70	130				
Selenium	0.0545	0.0010	0.05	0.0006668	108	70	130				
Silver	0.0205	0.0010	0.02	0	102	70	130				
Uranium	0.0735	0.00030	0.05	0.02144	104	70	130				
Vanadium	0.0571	0.010	0.05	0.007268	100	70	130				
Zinc	0.0855	0.010	0.05	0.0346	102	70	130				

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICPMS205-H_180612B: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060226-001BMSD** Method: **E200.8**

Analysis Date: **06/12/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0544	0.030	0.05	0	109	70	130	0.05165	5.2	20	
Antimony	0.0557	0.0010	0.05	0	111	70	130	0.05618	0.8	20	
Arsenic	0.0535	0.0010	0.05	0.001378	104	70	130	0.05414	1.2	20	
Barium	0.0908	0.050	0.05	0.03961	102	70	130	0.0916	0.9	20	
Beryllium	0.0514	0.0010	0.05	0	103	70	130	0.0513	0.3	20	
Cadmium	0.0512	0.0010	0.05	0	102	70	130	0.05158	0.8	20	
Chromium	0.0488	0.0050	0.05	0	98	70	130	0.04966	1.8	20	
Cobalt	0.0495	0.0050	0.05	0	99	70	130	0.04962	0.3	20	
Copper	0.0770	0.0050	0.05	0.0287	97	70	130	0.07782	1.0	20	
Iron	0.175	0.020	0.15	0.02649	99	70	130	0.1764	0.9	20	
Lead	0.0518	0.0010	0.05	0.00006265	103	70	130	0.05191	0.3	20	
Manganese	0.0522	0.0010	0.05	0.00296	99	70	130	0.05287	1.2	20	
Molybdenum	0.0656	0.0010	0.05	0.01526	101	70	130	0.06682	1.8	20	
Nickel	0.0535	0.0050	0.05	0.00408	99	70	130	0.05367	0.4	20	
Selenium	0.0539	0.0010	0.05	0.0006668	107	70	130	0.05452	1.1	20	
Silver	0.0202	0.0010	0.02	0	101	70	130	0.02048	1.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060226-001BMSD** Method: **E200.8**

Analysis Date: **06/12/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0735	0.00030	0.05	0.02144	**104**	70	130	0.07346	**0.0**	20	
Vanadium	0.0553	0.010	0.05	0.007268	**96**	70	130	0.05709	**3.1**	20	
Zinc	0.0862	0.010	0.05	0.0346	**103**	70	130	0.08554	**0.7**	20	

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICPMS205-H_180612B: 49** SampType: **Sample Matrix Spike** Lab ID: **H18060184-007BMS** Method: **E200.8**

Analysis Date: **06/12/18 13:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.213	0.030	0.05	0.1629	**100**	70	130				
Antimony	0.0538	0.0010	0.05	0.0003665	**107**	70	130				
Arsenic	0.0831	0.0010	0.05	0.03411	**98**	70	130				
Barium	0.0604	0.050	0.05	0.01069	**99**	70	130				
Beryllium	0.0498	0.0010	0.05	0.0001596	**99**	70	130				
Cadmium	0.0516	0.0010	0.05	0.001121	**101**	70	130				
Chromium	0.0486	0.0050	0.05	0	**97**	70	130				
Cobalt	0.0494	0.0050	0.05	0.0001626	**99**	70	130				
Copper	0.0517	0.0050	0.05	0.002584	**98**	70	130				
Iron	0.282	0.020	0.15	0.1324	**100**	70	130				
Lead	0.0503	0.0010	0.05	0.001328	**98**	70	130				
Manganese	0.150	0.0010	0.05	0.1024	**96**	70	130				
Molybdenum	0.0491	0.0010	0.05	0.0007837	**97**	70	130				
Nickel	0.0500	0.0050	0.05	0.0006685	**99**	70	130				
Selenium	0.0498	0.0010	0.05	0.00009247	**99**	70	130				
Silver	0.0197	0.0010	0.02	0.00003694	**99**	70	130				
Uranium	0.0506	0.00030	0.05	0.002204	**97**	70	130				
Vanadium	0.0489	0.010	0.05	0.0007586	**96**	70	130				
Zinc	0.332	0.010	0.05	0.2872		70	130				A

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060184-007BMSD** Method: **E200.8**

Analysis Date: **06/12/18 13:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.214	0.030	0.05	0.1629	103	70	130	0.213	0.7	20	
Antimony	0.0546	0.0010	0.05	0.0003665	108	70	130	0.05378	1.5	20	
Arsenic	0.0843	0.0010	0.05	0.03411	100	70	130	0.08314	1.4	20	
Barium	0.0614	0.050	0.05	0.01069	101	70	130	0.06042	1.5	20	
Beryllium	0.0492	0.0010	0.05	0.0001596	98	70	130	0.04981	1.2	20	
Cadmium	0.0525	0.0010	0.05	0.001121	103	70	130	0.05161	1.6	20	
Chromium	0.0489	0.0050	0.05	0	98	70	130	0.04858	0.6	20	
Cobalt	0.0497	0.0050	0.05	0.0001626	99	70	130	0.04942	0.5	20	
Copper	0.0522	0.0050	0.05	0.002584	99	70	130	0.05173	0.8	20	
Iron	0.282	0.020	0.15	0.1324	100	70	130	0.2821	0.1	20	
Lead	0.0518	0.0010	0.05	0.001328	101	70	130	0.05033	3.0	20	
Manganese	0.153	0.0010	0.05	0.1024	101	70	130	0.1504	1.6	20	
Molybdenum	0.0503	0.0010	0.05	0.0007837	99	70	130	0.0491	2.4	20	
Nickel	0.0503	0.0050	0.05	0.0006685	99	70	130	0.04996	0.7	20	
Selenium	0.0500	0.0010	0.05	0.00009247	100	70	130	0.04981	0.4	20	
Silver	0.0204	0.0010	0.02	0.00003694	102	70	130	0.01974	3.2	20	
Uranium	0.0525	0.00030	0.05	0.002204	101	70	130	0.05056	3.8	20	
Vanadium	0.0488	0.010	0.05	0.0007586	96	70	130	0.04887	0.2	20	
Zinc	0.339	0.010	0.05	0.2872		70	130	0.3324	2.0	20	A

Associated samples: **H18060190-001B, H18060190-002B, H18060190-003B**

Run ID :Run Order: **ICPMS205-H_180612B: 100** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/12/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.302	0.10	0.3	0	101	90	110				
Antimony	0.0617	0.050	0.06	0	103	90	110				
Arsenic	0.0599	0.0050	0.06	0	100	90	110				
Barium	0.0600	0.10	0.06	0	100	90	110				
Beryllium	0.0312	0.0010	0.03	0	104	90	110				
Cadmium	0.0298	0.0010	0.03	0	99	90	110				
Chromium	0.0604	0.010	0.06	0	101	90	110				
Cobalt	0.0606	0.010	0.06	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 100** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/12/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0604	0.010	0.06	0	**101**	90	110				
Iron	0.294	0.020	0.3	0	**98**	90	110				
Lead	0.0604	0.010	0.06	0	**101**	90	110				
Manganese	0.302	0.010	0.3	0	**101**	90	110				
Molybdenum	0.0594	0.0050	0.06	0	**99**	90	110				
Nickel	0.0606	0.010	0.06	0	**101**	90	110				
Selenium	0.0598	0.0050	0.06	0	**100**	90	110				
Silver	0.0298	0.0050	0.03	0	**99**	90	110				
Uranium	0.0569	0.0010	0.06	0	**95**	90	110				
Vanadium	0.0595	0.10	0.06	0	**99**	90	110				
Zinc	0.0615	0.010	0.06	0	**103**	90	110				

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 101** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/12/18 15:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.1	0.10	40	0	**105**	70	130				
Antimony	0.000464	0.050		0							
Arsenic	8.02E-05	0.0050		0							
Barium	0.000194	0.10		0							
Beryllium	3.99E-05	0.0010		0							
Cadmium	0.000110	0.0010		0							
Chromium	0.00128	0.010		0							
Cobalt	1.06E-05	0.010		0							
Copper	0.000281	0.010		0							
Iron	102	0.020	100	0	**102**	70	130				
Lead	0.000154	0.010		0							
Manganese	0.000224	0.010		0							
Molybdenum	0.866	0.0050	0.8	0	**108**	70	130				
Nickel	0.000153	0.010		0							
Selenium	6.41E-05	0.0050		0							
Silver	0.000116	0.0050		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 101** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/12/18 15:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	1.53E-05	0.0010		0							
Vanadium	3.21E-05	0.10		0							
Zinc	0.000528	0.010		0							

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 102** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/12/18 15:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.8	0.10	40	0	**107**	70	130				
Antimony	0.000305	0.050		0		0	0				
Arsenic	0.0105	0.0050	0.01	0	**105**	70	130				
Barium	4.25E-05	0.10		0		0	0				
Beryllium	0.000134	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	**102**	70	130				
Chromium	0.0212	0.010	0.02	0	**106**	70	130				
Cobalt	0.0200	0.010	0.02	0	**100**	70	130				
Copper	0.0196	0.010	0.02	0	**98**	70	130				
Iron	99.1	0.020	100	0	**99**	70	130				
Lead	0.000142	0.010		0		0	0				
Manganese	0.0203	0.010	0.02	0	**102**	70	130				
Molybdenum	0.863	0.0050	0.8	0	**108**	70	130				
Nickel	0.0201	0.010	0.02	0	**101**	70	130				
Selenium	0.0104	0.0050	0.01	0	**104**	70	130				
Silver	0.0198	0.0050	0.02	0	**99**	70	130				
Uranium	6.57E-06	0.0010		0		0	0				
Vanadium	0.0199	0.10	0.02	0	**99**	70	130				
Zinc	0.0103	0.010	0.01	0	**103**	70	130				

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 192** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/12/18 17:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.292	0.10	0.3	0	**97**	90	110				
Antimony	0.0610	0.050	0.06	0	**102**	90	110				
Arsenic	0.0598	0.0050	0.06	0	**100**	90	110				
Barium	0.0590	0.10	0.06	0	**98**	90	110				
Beryllium	0.0292	0.0010	0.03	0	**97**	90	110				
Cadmium	0.0297	0.0010	0.03	0	**99**	90	110				
Chromium	0.0595	0.010	0.06	0	**99**	90	110				
Cobalt	0.0595	0.010	0.06	0	**99**	90	110				
Copper	0.0596	0.010	0.06	0	**99**	90	110				
Iron	0.288	0.020	0.3	0	**96**	90	110				
Lead	0.0617	0.010	0.06	0	**103**	90	110				
Manganese	0.300	0.010	0.3	0	**100**	90	110				
Molybdenum	0.0590	0.0050	0.06	0	**98**	90	110				
Nickel	0.0606	0.010	0.06	0	**101**	90	110				
Selenium	0.0604	0.0050	0.06	0	**101**	90	110				
Silver	0.0290	0.0050	0.03	0	**97**	90	110				
Uranium	0.0574	0.0010	0.06	0	**96**	90	110				
Vanadium	0.0592	0.10	0.06	0	**99**	90	110				
Zinc	0.0612	0.010	0.06	0	**102**	90	110				

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 193** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/12/18 18:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.4	0.10	40	0	**106**	70	130				
Antimony	0.000476	0.050		0							
Arsenic	7.25E-05	0.0050		0							
Barium	0.000185	0.10		0							
Beryllium	2.72E-05	0.0010		0							
Cadmium	0.000143	0.0010		0							
Chromium	0.00131	0.010		0							
Cobalt	8.96E-06	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 193** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/12/18 18:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000262	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	0.000130	0.010		0							
Manganese	0.000235	0.010		0							
Molybdenum	0.876	0.0050	0.8	0	109	70	130				
Nickel	7.26E-05	0.010		0							
Selenium	5.63E-05	0.0050		0							
Silver	0.000116	0.0050		0							
Uranium	1.61E-05	0.0010		0							
Vanadium	3.50E-05	0.10		0							
Zinc	0.000601	0.010		0							

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180612B: 194** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/12/18 18:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.4	0.10	40	0	104	70	130				
Antimony	0.000301	0.050		0		0	0				
Arsenic	0.0104	0.0050	0.01	0	104	70	130				
Barium	5.31E-05	0.10		0		0	0				
Beryllium	-5.41E-05	0.0010		0		0	0				
Cadmium	0.0101	0.0010	0.01	0	101	70	130				
Chromium	0.0213	0.010	0.02	0	107	70	130				
Cobalt	0.0201	0.010	0.02	0	100	70	130				
Copper	0.0200	0.010	0.02	0	100	70	130				
Iron	98.4	0.020	100	0	98	70	130				
Lead	0.000118	0.010		0		0	0				
Manganese	0.0202	0.010	0.02	0	101	70	130				
Molybdenum	0.859	0.0050	0.8	0	107	70	130				
Nickel	0.0199	0.010	0.02	0	100	70	130				
Selenium	0.00944	0.0050	0.01	0	94	70	130				
Silver	0.0198	0.0050	0.02	0	99	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135499

Run ID :Run Order: **ICPMS205-H_180612B: 194** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/12/18 18:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.33E-06	0.0010		0		0	0				
Vanadium	0.0202	0.10	0.02	0	101	70	130				
Zinc	0.0101	0.010	0.01	0	101	70	130				

Associated samples: **H18060190-001B, H18060190-001C, H18060190-002B, H18060190-002C, H18060190-003B, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135509

Run ID :Run Order: **IC METROHM_180611B: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **06/11/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **IC METROHM_180611B: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **06/11/18 12:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	400	1.0	400	0	100	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **IC METROHM_180611B: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **06/11/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.2	1.0	25	0	101	90	110				
Sulfate	98.8	1.0	100	0	99	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **IC METROHM_180611B: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **06/12/18 08:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48.9	1.0	50	0	98	90	110				
Sulfate	193	1.0	200	0	97	90	110				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **IC METROHM_180611B: 59** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003AMS** Method: **E300.0**
Analysis Date: **06/12/18 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	39.4	1.0	25	15.97	94	90	110				
Sulfate	126	1.0	100	33.59	93	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135509

Run ID :Run Order: **IC METROHM_180611B: 59** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003AMS** Method: **E300.0**

Analysis Date: **06/12/18 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **IC METROHM_180611B: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003AMSD** Method: **E300.0**

Analysis Date: **06/12/18 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	39.2	1.0	25	15.97	**93**	90	110	39.44	**0.7**	20	
Sulfate	125	1.0	100	33.59	**91**	90	110	126.1	**0.9**	20	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135516

Run ID :Run Order: **FIA203-HE_180613A: 7** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **06/13/18 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **06/13/18 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.1	0.50	10.3	0	**98**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **06/13/18 10:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.524	0.050	0.5	0	**105**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **06/13/18 10:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	**101**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 12** SampType: **Sample Matrix Spike** Lab ID: **H18060193-001CMS** Method: **E350.1**
Analysis Date: **06/13/18 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.928	0.055	1	0	**93**	80	120				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135516

Run ID :Run Order: **FIA203-HE_180613A: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060193-001CMSD** Method: **E350.1**

Analysis Date: **06/13/18 10:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.912	0.055	1	0	**91**	80	120	0.9276	**1.7**	10	

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 51** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **06/13/18 10:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.518	0.050	0.5	0	**104**	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 54** SampType: **Sample Matrix Spike** Lab ID: **H18060250-002FMS** Method: **E350.1**

Analysis Date: **06/13/18 11:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.876	0.055	1	0	**88**	80	120				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA203-HE_180613A: 55** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060250-002FMSD** Method: **E350.1**

Analysis Date: **06/13/18 11:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.855	0.055	1	0	**85**	80	120	0.8756	**2.4**	10	

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135530

Run ID :Run Order: **FIA202-HE_180613B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **06/13/18 12:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.247	0.010	0.25	0	99	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA202-HE_180613B: 13** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **06/13/18 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00199	0.010		0		0	0				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Run ID :Run Order: **FIA202-HE_180613B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/13/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0937	0.010	0.1	0	94	90	110				

Associated samples: **H18060190-001D, H18060190-002D, H18060190-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135551

Run ID :Run Order: **ICP2-HE_180613B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/13/18 11:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.820	0.10	0.8	0	103	95	105				
Calcium	40.4	1.0	40	0	101	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Potassium	41.0	1.0	40	0	102	95	105				
Sodium	41.0	1.0	40	0	102	95	105				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/13/18 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.48	0.10	2.5	0	99	95	105				
Calcium	24.8	1.0	25	0	99	95	105				
Magnesium	24.1	1.0	25	0	96	95	105				
Potassium	25.0	1.0	25	0	100	95	105				
Sodium	25.2	1.0	25	0	101	95	105				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/13/18 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00335	0.10		0		0	0				
Calcium	478	1.0	500	0	96	80	120				
Magnesium	524	1.0	500	0	105	80	120				
Potassium	-0.0185	1.0		0		0	0				
Sodium	0.0154	1.0		0		0	0				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/13/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.961	0.10	1	0	96	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135551

Run ID :Run Order: **ICP2-HE_180613B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/13/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	476	1.0	500	0	95	80	120				
Magnesium	522	1.0	500	0	104	80	120				
Potassium	20.6	1.0	20	0	103	80	120				
Sodium	20.7	1.0	20	0	103	80	120				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 147** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 04:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	25.1	1.0	25	0	100	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Potassium	24.4	1.0	25	0	98	90	110				
Sodium	24.3	1.0	25	0	97	90	110				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICP2-HE_180613B: 159** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 05:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.50	0.10	2.5	0	100	90	110				
Calcium	24.9	1.0	25	0	100	90	110				
Magnesium	24.4	1.0	25	0	98	90	110				
Potassium	25.4	1.0	25	0	102	90	110				
Sodium	25.5	1.0	25	0	102	90	110				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135555

Run ID :Run Order: **ICPMS205-H_180613C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/13/18 17:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0616	0.050	0.06	0	103	90	110				
Arsenic	0.0596	0.0050	0.06	0	99	90	110				
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Lead	0.0615	0.010	0.06	0	102	90	110				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/13/18 17:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000457	0.050		0							
Arsenic	7.55E-05	0.0050		0							
Cadmium	0.000148	0.0010		0							
Lead	0.000130	0.010		0							

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/13/18 17:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000310	0.050		0		0	0				
Arsenic	0.0106	0.0050	0.01	0	106	70	130				
Cadmium	0.0105	0.0010	0.01	0	105	70	130				
Lead	0.000117	0.010		0		0	0				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 185** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/13/18 23:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0612	0.050	0.06	0	102	90	110				
Arsenic	0.0594	0.0050	0.06	0	99	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				
Lead	0.0590	0.010	0.06	0	98	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135555

Run ID :Run Order: **ICPMS205-H_180613C: 185** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/13/18 23:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 186** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/13/18 23:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000419	0.050		0							
Arsenic	6.42E-05	0.0050		0							
Cadmium	0.000175	0.0010		0							
Lead	9.27E-05	0.010		0							

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Run ID :Run Order: **ICPMS205-H_180613C: 187** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/13/18 23:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000297	0.050		0		0	0				
Arsenic	0.0110	0.0050	0.01	0	110	70	130				
Cadmium	0.0110	0.0010	0.01	0	110	70	130				
Lead	9.01E-05	0.010		0		0	0				

Associated samples: **H18060190-001C, H18060190-002C, H18060190-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135674

Run ID :Run Order: **ICPMS205-H_180619B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/19/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.303	0.0033	0.3	0	**101**	90	110				
Antimony	0.0617	0.0010	0.06	0	**103**	90	110				
Arsenic	0.0600	0.0010	0.06	0	**100**	90	110				
Barium	0.0612	0.0010	0.06	0	**102**	90	110				
Beryllium	0.0297	0.0010	0.03	0	**99**	90	110				
Cadmium	0.0308	0.0010	0.03	0	**103**	90	110				
Calcium	2.94	0.14	3	0	**98**	90	110				
Chromium	0.0599	0.0010	0.06	0	**100**	90	110				
Cobalt	0.0605	0.0010	0.06	0	**101**	90	110				
Lead	0.0596	0.0010	0.06	0	**99**	90	110				
Molybdenum	0.0604	0.0010	0.06	0	**101**	90	110				
Nickel	0.0602	0.0010	0.06	0	**100**	90	110				
Selenium	0.0597	0.0010	0.06	0	**100**	90	110				
Silver	0.0306	0.0010	0.03	0	**102**	90	110				
Uranium	0.0562	0.00030	0.06	0	**94**	90	110				
Vanadium	0.0594	0.0010	0.06	0	**99**	90	110				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135705

Run ID :Run Order: **ICP2-HE_180619A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/19/18 10:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.07	0.10	4	0	**102**	90	110				
Boron	0.794	0.10	0.8	0	**99**	90	110				
Copper	0.807	0.012	0.8	0	**101**	90	110				
Iron	4.03	0.030	4	0	**101**	90	110				
Manganese	4.00	0.010	4	0	**100**	90	110				
Zinc	0.784	0.010	0.8	0	**98**	90	110				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A**

Run ID :Run Order: **ICP2-HE_180619A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/19/18 11:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	0.10	500	0	**104**	80	120				
Boron	0.00793	0.10		0		0	0				
Copper	0.00612	0.012		0		0	0				
Iron	193	0.030	200	0	**96**	80	120				
Manganese	-0.00704	0.010		0		0	0				
Zinc	0.00356	0.010		0		0	0				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A**

Run ID :Run Order: **ICP2-HE_180619A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/19/18 11:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	0.10	500	0	**104**	80	120				
Boron	0.996	0.10	1	0	**100**	80	120				
Copper	0.511	0.012	0.5	0	**102**	80	120				
Iron	193	0.030	200	0	**97**	80	120				
Manganese	0.489	0.010	0.5	0	**98**	80	120				
Zinc	1.02	0.010	1	0	**102**	80	120				

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135739

Run ID :Run Order: **ICP2-HE_180620A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/20/18 08:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	102	90	110				
Boron	0.811	0.10	0.8	0	101	90	110				
Copper	0.815	0.012	0.8	0	102	90	110				
Iron	4.06	0.030	4	0	101	90	110				
Manganese	4.04	0.010	4	0	101	90	110				
Zinc	0.802	0.010	0.8	0	100	90	110				

Associated samples: **H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/20/18 09:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	526	0.10	500	0	105	80	120				
Boron	0.0124	0.10		0		0	0				
Copper	0.00460	0.012		0		0	0				
Iron	192	0.030	200	0	96	80	120				
Manganese	-0.0333	0.010		0		0	0				
Zinc	0.00241	0.010		0		0	0				

Associated samples: **H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **ICP2-HE_180620A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/20/18 09:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	527	0.10	500	0	105	80	120				
Boron	1.00	0.10	1	0	100	80	120				
Copper	0.523	0.012	0.5	0	105	80	120				
Iron	192	0.030	200	0	96	80	120				
Manganese	0.464	0.010	0.5	0	93	80	120				
Zinc	1.02	0.010	1	0	102	80	120				

Associated samples: **H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135791

Run ID :Run Order: **ICP2-HE_180621B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/21/18 16:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	3.99	0.030	4	0	100	90	110				
Manganese	3.88	0.010	4	0	97	90	110				

Associated samples: **H18060190-010A**

Run ID :Run Order: **ICP2-HE_180621B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/21/18 17:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187	0.030	200	0	94	80	120				
Manganese	-0.00455	0.010		0		0	0				

Associated samples: **H18060190-010A**

Run ID :Run Order: **ICP2-HE_180621B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/21/18 17:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	186	0.030	200	0	93	80	120				
Manganese	0.465	0.010	0.5	0	93	80	120				

Associated samples: **H18060190-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: R135880

Run ID :Run Order: **SOIL DRYING OVEN 2_180625B: 7** SampType: **Sample Duplicate** Lab ID: **H18060190-007ADUP** Method: **D2974**

Analysis Date: **06/26/18 07:15** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture (As Received)	24.4	0.20		0				26.46	**8.3**	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180625B: 8** SampType: **Sample Duplicate** Lab ID: **H18060190-007ADUP** Method: **D2974**

Analysis Date: **06/26/18 07:15** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	24.4	0.20		0				26.46	**8.3**	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180625B: 2** SampType: **Sample Duplicate** Lab ID: **H18060190-013ADUP** Method: **D2974**

Analysis Date: **06/26/18 07:15** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture (As Received)	23.9	0.20		0				25.32	**5.7**	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180625B: 2** SampType: **Sample Duplicate** Lab ID: **H18060190-013ADUP** Method: **D2974**

Analysis Date: **06/26/18 07:15** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	23.9	0.20		0				25.32	**5.7**	20	

Associated samples: **H18060190-004A, H18060190-005A, H18060190-006A, H18060190-007A, H18060190-008A, H18060190-009A, H18060190-010A, H18060190-011A, H18060190-012A, H18060190-013A, H18060190-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060190
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *27-Jun-18*

BatchID: TSS180611A

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 1** SampType: **Method Blank** Lab ID: **MB-1_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	98.0	10	100	0	**98**	80	120				

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 4** SampType: **Sample Duplicate** Lab ID: **H18060212-001ADUP** Method: **A2540 D**

Analysis Date: **06/11/18 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	55.0	10		0				53	**3.7**	5	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 1** SampType: **Sample Duplicate** Lab ID: **H18060191-001ADUP** Method: **A2540 D**

Analysis Date: **06/11/18 13:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	8.40	10		0				8		5	

Associated samples: **H18060190-001A, H18060190-002A, H18060190-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18060190

Login completed by: Jessica C. Smith
Date Received: 6/8/2018
Reviewed by: BL2000\rtooke
Received by: RAT
Reviewed Date: 6/13/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 1.0 °C, Cooler 2 at 3.0 °C, Cooler 3 at 0.9 °C, Cooler 4 at 1.4 °C. One Ice. Box 1 was received at 19.5 °C, Box 2 at 18.0 °C. No Ice, and no temperature blank. JCS 06/08/2018

ENERGY
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 1

Account Information (Billing information)

Company/Name	NRDP/DOJ
Contact	Greg Mullen
Phone	(404) 442-0228
Mailing Address	1501 E. Lockey
City, State, Zip	Helena, MT 59620
Email	
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight; sieve sediment samples SS-04 and SLAG-01 only for < 0.063 mm size class, analyze only for Total As, Cd, Cu, Pb and Zn

C1 1.0, C2 3.0, C3 0.9, C4 1.4 } TB B1 19.5 B2 18.0

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C2	1 SS-01	6-7-18	1715	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18060190
C2	2 SS-05A	6-7-18	1600	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	3 SS-15G	6-6-18	1300	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
B2	4 SS-04	6-7-18	1630	1	S									✓			
B2	5 SLAG-01	6-7-18	1615	1	S									✓			
B2	6 SS-01	6-7-18	1715	1	S									✓			
B1	7 SS-05A	6-7-18	1600	1	S									✓			
[illegible]	8 SS-15G	6-6-18	1300	1	S									✓			
	9																
	10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	6/8/18 10:40	Tanner Traxler	Rebecca Toole	6/8/18 10:42	Rebecca Toole

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	454, 28, 302, 453	Y N C B	Y N	see com °C	Y N coolers box	Y N coolers	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

July 06, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18060191 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 62 samples for MT DEQ-Federal Superfund on 6/8/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18060191-001	SS-06G	06/07/18 14:45	06/08/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Suspended
H18060191-002	Field Blank #2 SS-07	06/07/18 14:00	06/08/18	Surface Water	Same As Above
H18060191-003	SS-07	06/07/18 14:15	06/08/18	Surface Water	Same As Above
H18060191-004	SS-08	06/07/18 12:30	06/08/18	Surface Water	Same As Above
H18060191-005	SS-10A	06/07/18 11:15	06/08/18	Surface Water	Same As Above
H18060191-006	SS-11C	06/07/18 10:00	06/08/18	Surface Water	Same As Above
H18060191-007	SS-11C Duplicate	06/07/18 10:00	06/08/18	Surface Water	Same As Above
H18060191-008	SS-11D	06/07/18 9:15	06/08/18	Surface Water	Same As Above
H18060191-009	Field Blank #1 SS-13	06/07/18 15:45	06/08/18	Surface Water	Same As Above
H18060191-010	SS-13	06/07/18 16:15	06/08/18	Surface Water	Same As Above
H18060191-011	SS-13 Duplicate	06/07/18 16:15	06/08/18	Surface Water	Same As Above
H18060191-012	SS-14	06/07/18 14:45	06/08/18	Surface Water	Same As Above
H18060191-013	SS-15A-2	06/07/18 13:30	06/08/18	Surface Water	Same As Above
H18060191-014	SS-15B	06/07/18 12:30	06/08/18	Surface Water	Same As Above
H18060191-015	SS-16	06/07/18 11:00	06/08/18	Surface Water	Same As Above
H18060191-016	SS-17D	06/07/18 9:45	06/08/18	Surface Water	Same As Above
H18060191-017	SS-19	06/07/18 9:00	06/08/18	Surface Water	Same As Above

ANALYTICAL SUMMARY REPORT

H18060191-018	SS-06G Sediment Sieve <0.063mm	06/07/18 14:45	06/08/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet Soil Preparation USDA1
H18060191-019	SS-06G Sediment Sieve 1mm-0.063mm	06/07/18 14:45	06/08/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet
H18060191-020	SS-06G Sediment Sieve 2mm-1mm	06/07/18 14:45	06/08/18	Sediment	Same As Above
H18060191-021	SS-06G Duplicate Sediment Sieve <0.063mm	06/07/18 14:45	06/08/18	Sediment	Same As Above
H18060191-022	SS-06G Duplicate Sediment Sieve 1mm-0.063mm	06/07/18 14:45	06/08/18	Sediment	Same As Above
H18060191-023	SS-06G Duplicate Sediment Sieve 2mm-	06/07/18 14:45	06/08/18	Sediment	Same As Above
H18060191-024	SS-07 Sediment Sieve <0.063mm	06/07/18 14:15	06/08/18	Sediment	Same As Above
H18060191-025	SS-07 Sediment Sieve 1mm-0.063mm	06/07/18 14:15	06/08/18	Sediment	Same As Above
H18060191-026	SS-07 Sediment Sieve 2mm-1mm	06/07/18 14:15	06/08/18	Sediment	Same As Above
H18060191-027	SS-08 Sediment Sieve <0.063mm	06/07/18 12:30	06/08/18	Sediment	Same As Above
H18060191-028	SS-08 Sediment Sieve 1mm-0.063mm	06/07/18 12:30	06/08/18	Sediment	Same As Above
H18060191-029	SS-08 Sediment Sieve 2mm-1mm	06/07/18 12:30	06/08/18	Sediment	Same As Above
H18060191-030	SS-10A Sediment Sieve <0.063mm	06/07/18 11:15	06/08/18	Sediment	Same As Above
H18060191-031	SS-10A Sediment Sieve 1mm-0.063mm	06/07/18 11:15	06/08/18	Sediment	Same As Above
H18060191-032	SS-10A Sediment Sieve 2mm-1mm	06/07/18 11:15	06/08/18	Sediment	Same As Above
H18060191-033	SS-11C Sediment Sieve <0.063mm	06/07/18 10:00	06/08/18	Sediment	Same As Above
H18060191-034	SS-11C Sediment Sieve 1mm-0.063mm	06/07/18 10:00	06/08/18	Sediment	Same As Above
H18060191-035	SS-11C Sediment Sieve 2mm-1mm	06/07/18 10:00	06/08/18	Sediment	Same As Above
H18060191-036	SS-11D Sediment Sieve <0.063mm	06/07/18 9:15	06/08/18	Sediment	Same As Above
H18060191-037	SS-11D Sediment Sieve 1mm-0.063mm	06/07/18 9:15	06/08/18	Sediment	Same As Above
H18060191-038	SS-11D Sediment Sieve 2mm-1mm	06/07/18 9:15	06/08/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18060191-039	SS-13 Sediment Sieve <0.063mm	06/06/18 16:15	06/08/18	Sediment	Same As Above
H18060191-040	SS-13 Sediment Sieve 1mm-0.063mm	06/06/18 16:15	06/08/18	Sediment	Same As Above
H18060191-041	SS-13 Sediment Sieve 2mm-1mm	06/06/18 16:15	06/08/18	Sediment	Same As Above
H18060191-042	SS-14 Sediment Sieve <0.063mm	06/06/18 14:45	06/08/18	Sediment	Same As Above
H18060191-043	SS-14 Sediment Sieve 1mm-0.063mm	06/06/18 14:45	06/08/18	Sediment	Same As Above
H18060191-044	SS-14 Sediment Sieve 2mm-1mm	06/06/18 14:45	06/08/18	Sediment	Same As Above
H18060191-045	SS-15A-2 Sediment Sieve <0.063mm	06/06/18 13:30	06/08/18	Sediment	Same As Above
H18060191-046	SS-15A-2 Sediment Sieve 1mm-0.063mm	06/06/18 13:30	06/08/18	Sediment	Same As Above
H18060191-047	SS-15A-2 Sediment Sieve 2mm-1mm	06/06/18 13:30	06/08/18	Sediment	Same As Above
H18060191-048	SS-15A-2 Duplicate Sediment Sieve <0.063mm	06/06/18 13:30	06/08/18	Sediment	Same As Above
H18060191-049	SS-15A-2 Duplicate Sediment Sieve 1mm-0.063mm	06/06/18 13:30	06/08/18	Sediment	Same As Above
H18060191-050	SS-15A-2 Duplicate Sediment Sieve 2mm-	06/06/18 13:30	06/08/18	Sediment	Same As Above
H18060191-051	SS-15B Sediment Sieve <0.063mm	06/06/18 12:30	06/08/18	Sediment	Same As Above
H18060191-052	SS-15B Sediment Sieve 1mm-0.063mm	06/06/18 12:30	06/08/18	Sediment	Same As Above
H18060191-053	SS-15B Sediment Sieve 2mm-1mm	06/06/18 12:30	06/08/18	Sediment	Same As Above
H18060191-054	SS-16 Sediment Sieve <0.063mm	06/06/18 11:00	06/08/18	Sediment	Same As Above
H18060191-055	SS-16 Sediment Sieve 1mm-0.063mm	06/06/18 11:00	06/08/18	Sediment	Same As Above
H18060191-056	SS-16 Sediment Sieve 2mm-1mm	06/06/18 11:00	06/08/18	Sediment	Same As Above
H18060191-057	SS-17D Sediment Sieve <0.063mm	06/06/18 9:45	06/08/18	Sediment	Same As Above
H18060191-058	SS-17D Sediment Sieve 1mm-0.063mm	06/06/18 9:45	06/08/18	Sediment	Same As Above
H18060191-059	SS-17D Sediment Sieve 2mm-1mm	06/06/18 9:45	06/08/18	Sediment	Same As Above
H18060191-060	SS-19 Sediment Sieve <0.063mm	06/06/18 9:00	06/08/18	Sediment	Same As Above
H18060191-061	SS-19 Sediment Sieve 1mm-0.063mm	06/06/18 9:00	06/08/18	Sediment	Same As Above
H18060191-062	SS-19 Sediment Sieve 2mm-1mm	06/06/18 9:00	06/08/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: Silver Bow Creek SSTOU Monitoring
Work Order: H18060191

Report Date: 07/06/18

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the calculated method detection limit (MDL). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-001
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	8	mg/L	D	4	0.3	A2540 D	06/11/18 13:36 / SR			l24 (14410200)_180611A	: 14	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	75	mg/L		4	2	A2320 B	06/11/18 17:28 / SR			PHSC_101-H_180611A	: 143	R135427
Bicarbonate as HCO3	90	mg/L		4	2	A2320 B	06/11/18 17:28 / SR			PHSC_101-H_180611A	: 143	R135427
Chloride	12	mg/L		1	0.009	E300.0	06/12/18 10:46 / SR			IC METROHM_180611B	: 56	R135509
Sulfate	31	mg/L		1	0.01	E300.0	06/12/18 10:46 / SR			IC METROHM_180611B	: 56	R135509
Hardness as CaCO3	105	mg/L		1	1	A2340 B	06/11/18 21:04 / SR			CALC_180614A	: 498	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:16 / km			FIA203-HE_180613A	: 17	R135516
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.02	0.009	E353.2	06/11/18 11:35 / km			FIA203-HE_180611B	: 118	R135443
Nitrogen, Total	0.72	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:57 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	: 31	41806
Phosphorus, Total as P	0.152	mg/L		0.003	0.0006	E365.1	06/13/18 12:50 / cm	06/13/18 10:57	E365.1	FIA202-HE_180613B	: 40	41853
METALS, DISSOLVED												
Aluminum	0.015	mg/L		0.009	0.003	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Antimony	0.00042	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Arsenic	0.010	mg/L		0.001	0.00004	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Barium	0.032	mg/L		0.003	0.00002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Boron	0.029	mg/L	J	0.1	0.006	E200.7	06/11/18 21:04 / sld			ICP2-HE_180611C	: 101	R135476
Cadmium	0.00005	mg/L		0.00003	0.00003	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Calcium	30	mg/L		1	0.07	E200.7	06/11/18 21:04 / sld			ICP2-HE_180611C	: 101	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Cobalt	0.00012	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Copper	0.010	mg/L		0.001	0.0001	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Iron	0.38	mg/L		0.02	0.002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Lead	0.0003	mg/L		0.0003	0.00003	E200.8	07/02/18 12:19 / sld			ICPMS205-H_180702A	: 67	R136067
Magnesium	7	mg/L		1	0.1	E200.7	06/11/18 21:04 / sld			ICP2-HE_180611C	: 101	R135476
Manganese	0.056	mg/L		0.001	0.0003	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Mercury	2.8E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 15:39 / eli-	06/18/18 12:45		SUB-B302351	: 92	B_122535
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	: 106	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 21:04 / sld			ICP2-HE_180611C	: 101	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-001
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00015	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	106	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	106	R135601
Sodium	12	mg/L		1	0.02	E200.7	06/11/18 21:04 / sld			ICP2-HE_180611C	101	R135476
Uranium	0.0020	mg/L		0.0002	0.00001	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	106	R135601
Vanadium	0.0021	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	106	R135601
Zinc	0.081	mg/L		0.008	0.0003	E200.8	06/15/18 15:02 / sld			ICPMS205-H_180615A	106	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.207	mg/L		0.009	0.004	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Barium	0.031	mg/L		0.003	0.00009	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Boron	0.026	mg/L	J	0.1	0.005	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Cadmium	0.00011	mg/L		0.00003	0.00003	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Calcium	29	mg/L		1	0.09	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Chromium	0.0005	mg/L	J	0.01	0.0001	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Cobalt	0.00019	mg/L	J	0.01	0.00006	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Copper	0.015	mg/L		0.001	0.0002	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Iron	0.92	mg/L		0.02	0.006	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Lead	0.0021	mg/L		0.0003	0.00004	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Magnesium	7	mg/L		1	0.2	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Manganese	0.084	mg/L		0.001	0.0003	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Mercury	0.0000108	mg/L		5E-06	2E-06	E245.1	06/22/18 11:58 / eli-	06/22/18 07:00		SUB-B302605	19	B_122719
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Nickel	0.0006	mg/L	J	0.002	0.0001	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Potassium	3	mg/L		1	0.06	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Selenium	0.00018	mg/L	J	0.001	0.00005	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Silver	0.000090	mg/L	J	0.0002	9E-06	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Sodium	13	mg/L		1	0.03	E200.7	06/14/18 11:09 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	217	41824
Uranium	0.0020	mg/L		0.0002	9E-06	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Vanadium	0.0028	mg/L	J	0.1	0.00002	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824
Zinc	0.020	mg/L		0.008	0.001	E200.8	06/13/18 09:53 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	26	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-002
Collection Date: 06/07/18 14:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	06/11/18 13:36 / SR			l24 (14410200)_180611A	: 13	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	ND	mg/L		4	2	A2320 B	06/11/18 17:34 / SR			PHSC_101-H_180611A	: 145	R135427
Bicarbonate as HCO3	ND	mg/L		4	2	A2320 B	06/11/18 17:34 / SR			PHSC_101-H_180611A	: 145	R135427
Chloride	ND	mg/L		1	0.009	E300.0	06/12/18 11:00 / SR			IC METROHM_180611B	: 57	R135509
Sulfate	ND	mg/L		1	0.01	E300.0	06/12/18 11:00 / SR			IC METROHM_180611B	: 57	R135509
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	06/17/18 16:09 / sld			WATERCALC_180617A	: 1	R135631
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:17 / km			FIA203-HE_180613A	: 18	R135516
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	06/11/18 11:36 / km			FIA203-HE_180611B	: 119	R135443
Nitrogen, Total	ND	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:44 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	: 20	41806
Phosphorus, Total as P	0.0024	mg/L	J	0.003	0.0006	E365.1	06/13/18 12:51 / cm	06/13/18 10:57	E365.1	FIA202-HE_180613B	: 41	41853
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Antimony	ND	mg/L		0.0005	0.00009	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Arsenic	ND	mg/L		0.001	0.00004	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Barium	0.0022	mg/L	J	0.003	0.00002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Boron	ND	mg/L		0.1	0.006	E200.7	06/11/18 21:46 / sld			ICP2-HE_180611C	: 112	R135476
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Calcium	ND	mg/L		1	0.07	E200.7	06/11/18 21:46 / sld			ICP2-HE_180611C	: 112	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Cobalt	ND	mg/L		0.01	0.00009	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Copper	ND	mg/L		0.001	0.0001	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Iron	ND	mg/L		0.02	0.002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Lead	ND	mg/L		0.0003	0.00003	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Magnesium	ND	mg/L		1	0.01	E200.7	06/11/18 21:46 / sld			ICP2-HE_180611C	: 112	R135476
Manganese	ND	mg/L		0.001	0.0003	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Mercury	ND	mg/L		5E-06	2E-06	E245.1	06/19/18 15:48 / eli-	06/18/18 12:45		SUB-B302351	: 93	B_122535
Molybdenum	0.00005	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Nickel	ND	mg/L		0.002	0.0002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	: 107	R135601
Potassium	ND	mg/L		1	0.06	E200.7	06/11/18 21:46 / sld			ICP2-HE_180611C	: 112	R135476

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-002
Collection Date: 06/07/18 14:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	107	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	107	R135601
Sodium	0.04	mg/L	J	1	0.02	E200.7	06/11/18 21:46 / sld			ICP2-HE_180611C	112	R135476
Uranium	ND	mg/L		0.0002	0.00001	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	107	R135601
Vanadium	ND	mg/L		0.1	0.00007	E200.8	06/15/18 15:04 / sld			ICPMS205-H_180615A	107	R135601
Zinc	0.012	mg/L		0.008	0.0003	E200.8	06/19/18 14:00 / sld			ICPMS205-H_180619C	32	R135720
METALS, TOTAL RECOVERABLE												
Aluminum	0.003	mg/L	J	0.009	0.003	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Antimony	0.0001	mg/L	J	0.0005	0.0001	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Arsenic	ND	mg/L		0.001	0.00004	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Barium	0.00015	mg/L	J	0.003	0.00009	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Boron	ND	mg/L		0.1	0.005	E200.7	06/14/18 11:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	224	41824
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Calcium	ND	mg/L		1	0.09	E200.7	06/14/18 11:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	224	41824
Chromium	ND	mg/L		0.01	0.0001	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Cobalt	ND	mg/L		0.01	0.00006	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Copper	ND	mg/L		0.001	0.0002	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Iron	ND	mg/L		0.02	0.004	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Lead	ND	mg/L		0.0003	0.00004	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Magnesium	0.013	mg/L	J	1	0.009	E200.7	06/14/18 11:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	224	41824
Manganese	ND	mg/L		0.001	0.0003	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Mercury	ND	mg/L		5E-06	2E-06	E245.1	06/21/18 10:54 / eli-	06/20/18 13:25		SUB-B302511	44	B_122536
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Nickel	ND	mg/L		0.002	0.0001	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Potassium	ND	mg/L		1	0.06	E200.7	06/14/18 11:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	224	41824
Selenium	ND	mg/L		0.001	0.00005	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Silver	0.000024	mg/L	J	0.0002	9E-06	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Sodium	ND	mg/L		1	0.03	E200.7	06/14/18 11:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	224	41824
Uranium	ND	mg/L		0.0002	9E-06	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Vanadium	0.00007	mg/L	J	0.1	0.00002	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824
Zinc	ND	mg/L		0.008	0.001	E200.8	06/13/18 09:55 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	27	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-003
Collection Date: 06/07/18 14:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	8	mg/L	D	4	0.3	A2540 D	06/11/18 13:36 / SR			124 (14410200)_180611A	16	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	80	mg/L		4	2	A2320 B	06/11/18 17:40 / SR			PHSC_101-H_180611A	147	R135427
Bicarbonate as HCO3	97	mg/L		4	2	A2320 B	06/11/18 17:40 / SR			PHSC_101-H_180611A	147	R135427
Chloride	16	mg/L		1	0.009	E300.0	06/12/18 11:15 / SR			IC METROHM_180611B	58	R135509
Sulfate	34	mg/L		1	0.01	E300.0	06/12/18 11:15 / SR			IC METROHM_180611B	58	R135509
Hardness as CaCO3	108	mg/L		1	1	A2340 B	06/11/18 21:49 / SR			CALC_180619B	58	R135694
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:18 / km			FIA203-HE_180613A	19	R135516
Nitrogen, Nitrate+Nitrite as N	0.54	mg/L		0.02	0.009	E353.2	06/11/18 11:40 / km			FIA203-HE_180611B	122	R135443
Nitrogen, Total	0.94	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:58 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	32	41806
Phosphorus, Total as P	0.155	mg/L		0.003	0.0006	E365.1	06/13/18 12:59 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	48	41854
METALS, DISSOLVED												
Aluminum	0.012	mg/L		0.009	0.003	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Antimony	0.00044	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Barium	0.031	mg/L		0.003	0.00002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Boron	0.036	mg/L	J	0.1	0.006	E200.7	06/11/18 21:49 / sld			ICP2-HE_180611C	113	R135476
Cadmium	0.00004	mg/L		0.00003	0.00003	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Calcium	31	mg/L		1	0.07	E200.7	06/11/18 21:49 / sld			ICP2-HE_180611C	113	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Cobalt	0.00011	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Copper	0.008	mg/L		0.001	0.0001	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Iron	0.32	mg/L		0.02	0.002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Magnesium	8	mg/L		1	0.1	E200.7	06/11/18 21:49 / sld			ICP2-HE_180611C	113	R135476
Manganese	0.051	mg/L		0.001	0.0003	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Mercury	2.6E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 15:51 / eli-	06/18/18 12:45		SUB-B302351	94	B_122535
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 21:49 / sld			ICP2-HE_180611C	113	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-003
Collection Date: 06/07/18 14:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00015	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Sodium	16	mg/L		1	0.02	E200.7	06/11/18 21:49 / sld			ICP2-HE_180611C	113	R135476
Uranium	0.0019	mg/L		0.0002	0.00001	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Vanadium	0.0019	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
Zinc	0.021	mg/L		0.008	0.0003	E200.8	06/15/18 15:06 / sld			ICPMS205-H_180615A	108	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.209	mg/L		0.009	0.003	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Barium	0.032	mg/L		0.003	0.00009	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Boron	0.035	mg/L	J	0.1	0.005	E200.7	06/14/18 11:39 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	225	41824
Cadmium	0.00010	mg/L		0.00003	0.00003	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Calcium	29	mg/L		1	0.09	E200.7	06/14/18 11:39 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	225	41824
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Cobalt	0.00015	mg/L	J	0.01	0.00006	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Copper	0.014	mg/L		0.001	0.0002	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Iron	0.81	mg/L		0.02	0.004	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Lead	0.0021	mg/L		0.0003	0.00004	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Magnesium	7	mg/L		1	0.2	E200.7	06/14/18 11:39 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	225	41824
Manganese	0.078	mg/L		0.001	0.0003	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Mercury	9.1E-06	mg/L		5E-06	2E-06	E245.1	06/22/18 12:04 / eli-	06/22/18 07:00		SUB-B302605	20	B_122719
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Nickel	0.0007	mg/L	J	0.002	0.0001	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 11:39 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	225	41824
Selenium	0.00018	mg/L	J	0.001	0.00005	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Silver	0.000079	mg/L	J	0.0002	9E-06	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Sodium	19	mg/L		1	0.03	E200.7	06/14/18 11:39 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	225	41824
Uranium	0.0019	mg/L		0.0002	9E-06	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Vanadium	0.0027	mg/L	J	0.1	0.00002	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824
Zinc	0.029	mg/L		0.008	0.001	E200.8	06/13/18 09:57 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	28	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-004
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	10	mg/L	D	4	0.3	A2540 D	06/11/18 13:37 / SR			124 (14410200)_180611A	17	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	83	mg/L		4	2	A2320 B	06/11/18 18:55 / SR			PHSC_101-H_180611A	153	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 18:55 / SR			PHSC_101-H_180611A	153	R135427
Chloride	16	mg/L		1	0.009	E300.0	06/12/18 12:42 / SR			IC METROHM_180611B	63	R135509
Sulfate	38	mg/L		1	0.01	E300.0	06/12/18 12:42 / SR			IC METROHM_180611B	63	R135509
Hardness as CaCO3	114	mg/L		1	1	A2340 B	06/11/18 21:53 / SR			CALC_180614A	520	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:19 / km			FIA203-HE_180613A	20	R135516
Nitrogen, Nitrate+Nitrite as N	0.32	mg/L		0.02	0.009	E353.2	06/11/18 11:43 / km			FIA203-HE_180611B	125	R135443
Nitrogen, Total	0.76	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:59 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	33	41806
Phosphorus, Total as P	0.154	mg/L		0.003	0.0006	E365.1	06/13/18 13:03 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	51	41854
METALS, DISSOLVED												
Aluminum	0.011	mg/L		0.009	0.003	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Antimony	0.00047	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Barium	0.030	mg/L		0.003	0.00002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Boron	0.039	mg/L	J	0.1	0.006	E200.7	06/11/18 21:53 / sld			ICP2-HE_180611C	114	R135476
Cadmium	0.00012	mg/L		0.00003	0.00003	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Calcium	33	mg/L		1	0.07	E200.7	06/11/18 21:53 / sld			ICP2-HE_180611C	114	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Copper	0.012	mg/L		0.001	0.0001	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Iron	0.28	mg/L		0.02	0.002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Magnesium	8	mg/L		1	0.1	E200.7	06/11/18 21:53 / sld			ICP2-HE_180611C	114	R135476
Manganese	0.073	mg/L		0.001	0.0003	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Mercury	2.7E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 15:54 / eli-	06/18/18 12:45		SUB-B302351	95	B_122535
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 21:53 / sld			ICP2-HE_180611C	114	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-004
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00016	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Silver	0.00002	mg/L	J	0.0002	0.00002	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Sodium	17	mg/L		1	0.02	E200.7	06/11/18 21:53 / sld			ICP2-HE_180611C	114	R135476
Uranium	0.0024	mg/L		0.0002	0.00001	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Vanadium	0.0020	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
Zinc	0.027	mg/L		0.008	0.0003	E200.8	06/15/18 15:20 / sld			ICPMS205-H_180615A	115	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.237	mg/L		0.009	0.003	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Antimony	0.0007	mg/L		0.0005	0.0001	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Barium	0.033	mg/L		0.003	0.00009	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Boron	0.034	mg/L	J	0.1	0.005	E200.7	06/14/18 11:43 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	226	41824
Cadmium	0.00020	mg/L		0.00003	0.00003	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Calcium	32	mg/L		1	0.09	E200.7	06/14/18 11:43 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	226	41824
Chromium	0.0005	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Cobalt	0.00021	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Copper	0.020	mg/L		0.001	0.0002	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Iron	0.87	mg/L		0.02	0.004	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Lead	0.0028	mg/L		0.0003	0.00004	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Magnesium	8	mg/L		1	0.2	E200.7	06/14/18 11:43 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	226	41824
Manganese	0.119	mg/L		0.001	0.0003	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Mercury	0.0000121	mg/L		5E-06	2E-06	E245.1	06/22/18 12:07 / eli-	06/22/18 07:00		SUB-B302605	21	B_122719
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 11:43 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	226	41824
Selenium	0.00019	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Silver	0.00010	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Sodium	19	mg/L		1	0.03	E200.7	06/14/18 11:43 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	226	41824
Uranium	0.0026	mg/L		0.0002	9E-06	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Vanadium	0.0028	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824
Zinc	0.047	mg/L		0.008	0.001	E200.8	06/13/18 10:13 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	36	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-005
Collection Date: 06/07/18 11:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	8	mg/L	D	4	0.3	A2540 D	06/11/18 13:37 / SR			124 (14410200)_180611A	18	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	83	mg/L		4	2	A2320 B	06/11/18 19:05 / SR			PHSC_101-H_180611A	157	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 19:05 / SR			PHSC_101-H_180611A	157	R135427
Chloride	16	mg/L		1	0.009	E300.0	06/12/18 12:57 / SR			IC METROHM_180611B	64	R135509
Sulfate	42	mg/L		1	0.01	E300.0	06/12/18 12:57 / SR			IC METROHM_180611B	64	R135509
Hardness as CaCO3	118	mg/L		1	1	A2340 B	06/11/18 21:57 / SR			CALC_180619B	69	R135694
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:20 / km			FIA203-HE_180613A	21	R135516
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.02	0.009	E353.2	06/11/18 11:45 / km			FIA203-HE_180611B	126	R135443
Nitrogen, Total	0.65	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:00 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	34	41806
Phosphorus, Total as P	0.169	mg/L		0.003	0.0006	E365.1	06/13/18 13:04 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	52	41854
METALS, DISSOLVED												
Aluminum	0.019	mg/L		0.009	0.003	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Antimony	0.00045	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Arsenic	0.010	mg/L		0.001	0.00004	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Barium	0.032	mg/L		0.003	0.00002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Boron	0.038	mg/L	J	0.1	0.006	E200.7	06/11/18 21:57 / sld			ICP2-HE_180611C	115	R135476
Cadmium	0.00019	mg/L		0.00003	0.00003	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Calcium	34	mg/L		1	0.07	E200.7	06/11/18 21:57 / sld			ICP2-HE_180611C	115	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Cobalt	0.00014	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Copper	0.028	mg/L		0.001	0.0001	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Iron	0.28	mg/L		0.02	0.002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Lead	0.0005	mg/L		0.0003	0.00003	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Magnesium	8	mg/L		1	0.1	E200.7	06/11/18 21:57 / sld			ICP2-HE_180611C	115	R135476
Manganese	0.093	mg/L		0.001	0.0003	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Mercury	2.6E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 15:57 / eli-	06/18/18 12:45		SUB-B302351	96	B_122535
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 21:57 / sld			ICP2-HE_180611C	115	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-005
Collection Date: 06/07/18 11:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Sodium	17	mg/L		1	0.02	E200.7	06/11/18 21:57 / sld			ICP2-HE_180611C	115	R135476
Uranium	0.0026	mg/L		0.0002	0.00001	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Vanadium	0.0020	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
Zinc	0.046	mg/L		0.008	0.0003	E200.8	06/15/18 15:22 / sld			ICPMS205-H_180615A	116	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.207	mg/L		0.009	0.003	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Antimony	0.0007	mg/L		0.0005	0.0001	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Barium	0.031	mg/L		0.003	0.00009	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Boron	0.035	mg/L	J	0.1	0.005	E200.7	06/14/18 11:47 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	227	41824
Cadmium	0.00041	mg/L		0.00003	0.00003	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Calcium	31	mg/L		1	0.09	E200.7	06/14/18 11:47 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	227	41824
Chromium	0.0005	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Cobalt	0.00028	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Copper	0.036	mg/L		0.001	0.0002	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Iron	0.75	mg/L		0.02	0.004	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Lead	0.0025	mg/L		0.0003	0.00004	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Magnesium	7	mg/L		1	0.2	E200.7	06/14/18 11:47 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	227	41824
Manganese	0.122	mg/L		0.001	0.0003	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Mercury	0.0000109	mg/L		5E-06	2E-06	E245.1	06/22/18 12:12 / eli-	06/22/18 07:00		SUB-B302605	23	B_122719
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 11:47 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	227	41824
Selenium	0.00016	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Silver	0.000092	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Sodium	18	mg/L		1	0.03	E200.7	06/14/18 11:47 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	227	41824
Uranium	0.0025	mg/L		0.0002	9E-06	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Vanadium	0.0027	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824
Zinc	0.063	mg/L		0.008	0.001	E200.8	06/13/18 10:15 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	37	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-006
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	7	mg/L	D	4	0.3	A2540 D	06/11/18 13:38 / SR			l24 (14410200)_180611A	: 19	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	88	mg/L		4	2	A2320 B	06/11/18 19:10 / SR			PHSC_101-H_180611A	: 159	R135427
Bicarbonate as HCO3	110	mg/L		4	2	A2320 B	06/11/18 19:10 / SR			PHSC_101-H_180611A	: 159	R135427
Chloride	25	mg/L		1	0.009	E300.0	06/12/18 13:12 / SR			IC METROHM_180611B	: 65	R135509
Sulfate	49	mg/L		1	0.01	E300.0	06/12/18 13:12 / SR			IC METROHM_180611B	: 65	R135509
Hardness as CaCO3	136	mg/L		1	1	A2340 B	06/11/18 22:01 / SR			CALC_180614A	: 531	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:22 / km			FIA203-HE_180613A	: 22	R135516
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.02	0.009	E353.2	06/11/18 11:46 / km			FIA203-HE_180611B	: 127	R135443
Nitrogen, Total	0.66	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:02 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	: 35	41806
Phosphorus, Total as P	0.154	mg/L		0.003	0.0006	E365.1	06/13/18 13:05 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	: 53	41854
METALS, DISSOLVED												
Aluminum	0.015	mg/L		0.009	0.003	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Antimony	0.0006	mg/L		0.0005	0.00009	E200.8	06/19/18 14:02 / sld			ICPMS205-H_180619C	: 33	R135720
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Barium	0.034	mg/L		0.003	0.00002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Boron	0.042	mg/L	J	0.1	0.006	E200.7	06/11/18 22:01 / sld			ICP2-HE_180611C	: 116	R135476
Cadmium	0.00022	mg/L		0.00003	0.00003	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Calcium	40	mg/L		1	0.07	E200.7	06/11/18 22:01 / sld			ICP2-HE_180611C	: 116	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Cobalt	0.00012	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Copper	0.026	mg/L		0.001	0.0001	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Iron	0.24	mg/L		0.02	0.002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Lead	0.0005	mg/L		0.0003	0.00003	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Magnesium	9	mg/L		1	0.1	E200.7	06/11/18 22:01 / sld			ICP2-HE_180611C	: 116	R135476
Manganese	0.112	mg/L		0.001	0.0003	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Mercury	2.7E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:00 / eli-	06/18/18 12:45		SUB-B302351	: 97	B_122535
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	: 117	R135601
Potassium	4	mg/L		1	0.06	E200.7	06/11/18 22:01 / sld			ICP2-HE_180611C	: 116	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-006
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00026	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	117	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	117	R135601
Sodium	20	mg/L		1	0.02	E200.7	06/11/18 22:01 / sld			ICP2-HE_180611C	116	R135476
Uranium	0.0027	mg/L		0.0002	0.00001	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	117	R135601
Vanadium	0.0019	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	117	R135601
Zinc	0.061	mg/L		0.008	0.0003	E200.8	06/15/18 15:24 / sld			ICPMS205-H_180615A	117	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.218	mg/L		0.009	0.003	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Antimony	0.0008	mg/L		0.0005	0.0001	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Barium	0.035	mg/L		0.003	0.00009	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Boron	0.043	mg/L	J	0.1	0.005	E200.7	06/14/18 11:51 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	228	41824
Cadmium	0.00037	mg/L		0.00003	0.00003	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Calcium	39	mg/L		1	0.09	E200.7	06/14/18 11:51 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	228	41824
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Cobalt	0.00021	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Copper	0.037	mg/L		0.001	0.0002	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Iron	0.75	mg/L		0.02	0.004	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Lead	0.0023	mg/L		0.0003	0.00004	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Magnesium	9	mg/L		1	0.2	E200.7	06/14/18 11:51 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	228	41824
Manganese	0.158	mg/L		0.001	0.0003	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Mercury	9.8E-06	mg/L		5E-06	2E-06	E245.1	06/22/18 12:36 / eli-	06/22/18 07:00		SUB-B302605	30	B_122720
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 11:51 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	228	41824
Selenium	0.00028	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Silver	0.000096	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Sodium	23	mg/L		1	0.03	E200.7	06/14/18 11:51 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	228	41824
Uranium	0.0028	mg/L		0.0002	9E-06	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Vanadium	0.0027	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824
Zinc	0.088	mg/L		0.008	0.001	E200.8	06/13/18 10:17 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	38	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-007
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	8	mg/L	D	4	0.3	A2540 D	06/11/18 13:38 / SR			l24 (14410200)_180611A	20	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	87	mg/L		4	2	A2320 B	06/11/18 19:16 / SR			PHSC_101-H_180611A	161	R135427
Bicarbonate as HCO3	110	mg/L		4	2	A2320 B	06/11/18 19:16 / SR			PHSC_101-H_180611A	161	R135427
Chloride	25	mg/L		1	0.009	E300.0	06/12/18 13:26 / SR			IC METROHM_180611B	66	R135509
Sulfate	49	mg/L		1	0.01	E300.0	06/12/18 13:26 / SR			IC METROHM_180611B	66	R135509
Hardness as CaCO3	136	mg/L		1	1	A2340 B	06/11/18 22:05 / SR			CALC_180619B	80	R135694
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:25 / km			FIA203-HE_180613A	25	R135516
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.02	0.009	E353.2	06/11/18 11:47 / km			FIA203-HE_180611B	128	R135443
Nitrogen, Total	0.65	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:03 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	36	41806
Phosphorus, Total as P	0.151	mg/L		0.003	0.0006	E365.1	06/13/18 13:06 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	54	41854
METALS, DISSOLVED												
Aluminum	0.015	mg/L		0.009	0.003	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Antimony	0.0006	mg/L		0.0005	0.00009	E200.8	06/19/18 14:04 / sld			ICPMS205-H_180619C	34	R135720
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Barium	0.035	mg/L		0.003	0.00002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Boron	0.040	mg/L	J	0.1	0.006	E200.7	06/11/18 22:05 / sld			ICP2-HE_180611C	117	R135476
Cadmium	0.00025	mg/L		0.00003	0.00003	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Calcium	40	mg/L		1	0.07	E200.7	06/11/18 22:05 / sld			ICP2-HE_180611C	117	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Cobalt	0.00014	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Copper	0.026	mg/L		0.001	0.0001	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Iron	0.26	mg/L		0.02	0.002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Lead	0.0005	mg/L		0.0003	0.00003	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Magnesium	9	mg/L		1	0.1	E200.7	06/11/18 22:05 / sld			ICP2-HE_180611C	117	R135476
Manganese	0.113	mg/L		0.001	0.0003	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Mercury	3.3E-06	mg/L	J	5E-06	2E-06	E245.1	06/21/18 15:02 / eli-	06/21/18 10:35		SUB-B302511	66	B_122698
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Potassium	4	mg/L		1	0.06	E200.7	06/11/18 22:05 / sld			ICP2-HE_180611C	117	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-007
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00023	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Sodium	20	mg/L		1	0.02	E200.7	06/11/18 22:05 / sld			ICP2-HE_180611C	117	R135476
Uranium	0.0028	mg/L		0.0002	0.00001	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Vanadium	0.0021	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
Zinc	0.065	mg/L		0.008	0.0003	E200.8	06/15/18 15:26 / sld			ICPMS205-H_180615A	118	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.220	mg/L		0.009	0.003	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Antimony	0.0008	mg/L		0.0005	0.0001	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Barium	0.036	mg/L		0.003	0.00009	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Boron	0.043	mg/L	J	0.1	0.005	E200.7	06/14/18 11:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	229	41824
Cadmium	0.00036	mg/L		0.00003	0.00003	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Calcium	39	mg/L		1	0.09	E200.7	06/14/18 11:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	229	41824
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Cobalt	0.00022	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Copper	0.038	mg/L		0.001	0.0002	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Iron	0.74	mg/L		0.02	0.004	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Lead	0.0024	mg/L		0.0003	0.00004	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Magnesium	9	mg/L		1	0.2	E200.7	06/14/18 11:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	229	41824
Manganese	0.159	mg/L		0.001	0.0003	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Mercury	9.8E-06	mg/L		5E-06	2E-06	E245.1	06/22/18 12:48 / eli-	06/22/18 07:00		SUB-B302605	34	B_122720
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 11:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	229	41824
Selenium	0.00030	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Silver	0.000078	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Sodium	23	mg/L		1	0.03	E200.7	06/14/18 11:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	229	41824
Uranium	0.0028	mg/L		0.0002	9E-06	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Vanadium	0.0028	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824
Zinc	0.087	mg/L		0.008	0.001	E200.8	06/13/18 10:19 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	39	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-008
Collection Date: 06/07/18 09:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	16	mg/L	D	4	0.3	A2540 D	06/11/18 13:38 / SR			124 (14410200)_180611A	21	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	85	mg/L		4	2	A2320 B	06/11/18 19:21 / SR			PHSC_101-H_180611A	163	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 19:21 / SR			PHSC_101-H_180611A	163	R135427
Chloride	18	mg/L		1	0.009	E300.0	06/12/18 13:41 / SR			IC METROHM_180611B	67	R135509
Sulfate	37	mg/L		1	0.01	E300.0	06/12/18 13:41 / SR			IC METROHM_180611B	67	R135509
Hardness as CaCO3	115	mg/L		1	1	A2340 B	06/11/18 22:08 / SR			CALC_180614A	542	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:29 / km			FIA203-HE_180613A	28	R135516
Nitrogen, Nitrate+Nitrite as N	0.21	mg/L		0.02	0.009	E353.2	06/11/18 11:48 / km			FIA203-HE_180611B	129	R135443
Nitrogen, Total	0.81	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:04 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	37	41806
Phosphorus, Total as P	0.195	mg/L		0.003	0.0006	E365.1	06/13/18 13:07 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	55	41854
METALS, DISSOLVED												
Aluminum	0.017	mg/L		0.009	0.003	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Antimony	0.00050	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Barium	0.030	mg/L		0.003	0.00002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Boron	0.034	mg/L	J	0.1	0.006	E200.7	06/11/18 22:08 / sld			ICP2-HE_180611C	118	R135476
Cadmium	0.00016	mg/L		0.00003	0.00003	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Calcium	34	mg/L		1	0.07	E200.7	06/11/18 22:08 / sld			ICP2-HE_180611C	118	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Copper	0.019	mg/L		0.001	0.0001	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Iron	0.20	mg/L		0.02	0.002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Magnesium	8	mg/L		1	0.1	E200.7	06/11/18 22:08 / sld			ICP2-HE_180611C	118	R135476
Manganese	0.099	mg/L		0.001	0.0003	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Mercury	2.6E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:06 / eli-	06/18/18 12:45		SUB-B302351	99	B_122535
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 22:08 / sld			ICP2-HE_180611C	118	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-008
Collection Date: 06/07/18 09:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00021	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Sodium	18	mg/L		1	0.02	E200.7	06/11/18 22:08 / sld			ICP2-HE_180611C	118	R135476
Uranium	0.0021	mg/L		0.0002	0.00001	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Vanadium	0.0021	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
Zinc	0.044	mg/L		0.008	0.0003	E200.8	06/15/18 15:28 / sld			ICPMS205-H_180615A	119	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.610	mg/L		0.009	0.003	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Antimony	0.0008	mg/L		0.0005	0.0001	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Arsenic	0.014	mg/L		0.001	0.00004	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Barium	0.039	mg/L		0.003	0.00009	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Boron	0.031	mg/L	J	0.1	0.005	E200.7	06/14/18 11:58 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	230	41824
Cadmium	0.00033	mg/L		0.00003	0.00003	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Calcium	34	mg/L		1	0.09	E200.7	06/14/18 11:58 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	230	41824
Chromium	0.0010	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Cobalt	0.00037	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Copper	0.028	mg/L		0.001	0.0002	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Iron	0.90	mg/L		0.02	0.004	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Lead	0.0026	mg/L		0.0003	0.00004	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Magnesium	8	mg/L		1	0.2	E200.7	06/14/18 11:58 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	230	41824
Manganese	0.174	mg/L		0.001	0.0003	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Mercury	0.0000117	mg/L		5E-06	2E-06	E245.1	06/22/18 12:54 / eli-	06/22/18 07:00		SUB-B302605	36	B_122720
Molybdenum	0.0045	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Nickel	0.0014	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 11:58 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	230	41824
Selenium	0.00020	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Silver	0.000090	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Sodium	21	mg/L		1	0.03	E200.7	06/14/18 11:58 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	230	41824
Uranium	0.0023	mg/L		0.0002	9E-06	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Vanadium	0.0034	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824
Zinc	0.064	mg/L		0.008	0.001	E200.8	06/13/18 10:21 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	40	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-009
Collection Date: 06/07/18 15:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	06/11/18 13:38 / SR			l24 (14410200)_180611A	: 22	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	ND	mg/L		4	2	A2320 B	06/11/18 19:26 / SR			PHSC_101-H_180611A	: 165	R135427
Bicarbonate as HCO3	ND	mg/L		4	2	A2320 B	06/11/18 19:26 / SR			PHSC_101-H_180611A	: 165	R135427
Chloride	0.009	mg/L	J	1	0.009	E300.0	06/12/18 13:55 / SR			IC METROHM_180611B	: 68	R135509
Sulfate	ND	mg/L		1	0.01	E300.0	06/12/18 13:55 / SR			IC METROHM_180611B	: 68	R135509
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	06/21/18 07:25 / sld			WATERCALC_180621A	: 1	R135751
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:30 / km			FIA203-HE_180613A	: 29	R135516
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	06/11/18 11:49 / km			FIA203-HE_180611B	: 130	R135443
Nitrogen, Total	ND	mg/L		0.05	0.01	A4500 N-C	06/11/18 15:52 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	: 27	41806
Phosphorus, Total as P	ND	mg/L		0.003	0.0006	E365.1	06/13/18 13:08 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	: 56	41854
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Antimony	ND	mg/L		0.0005	0.00009	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Arsenic	ND	mg/L		0.001	0.00004	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Barium	0.0017	mg/L	J	0.003	0.00002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Boron	ND	mg/L		0.1	0.006	E200.7	06/11/18 22:31 / sld			ICP2-HE_180611C	: 124	R135476
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Calcium	ND	mg/L		1	0.07	E200.7	06/11/18 22:31 / sld			ICP2-HE_180611C	: 124	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Cobalt	ND	mg/L		0.01	0.00009	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Copper	ND	mg/L		0.001	0.0001	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Iron	ND	mg/L		0.02	0.002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Lead	ND	mg/L		0.0003	0.00003	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Magnesium	ND	mg/L		1	0.01	E200.7	06/11/18 22:31 / sld			ICP2-HE_180611C	: 124	R135476
Manganese	ND	mg/L		0.001	0.0003	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Mercury	ND	mg/L		5E-06	2E-06	E245.1	06/21/18 15:05 / eli-	06/21/18 10:35		SUB-B302511	: 67	B_122698
Molybdenum	0.00004	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Nickel	ND	mg/L		0.002	0.0002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	: 120	R135601
Potassium	ND	mg/L		1	0.06	E200.7	06/11/18 22:31 / sld			ICP2-HE_180611C	: 124	R135476

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-009
Collection Date: 06/07/18 15:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	120	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	120	R135601
Sodium	0.03	mg/L	J	1	0.02	E200.7	06/11/18 22:31 / sld			ICP2-HE_180611C	124	R135476
Uranium	ND	mg/L		0.0002	0.00001	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	120	R135601
Vanadium	ND	mg/L		0.1	0.00007	E200.8	06/15/18 15:29 / sld			ICPMS205-H_180615A	120	R135601
Zinc	0.009	mg/L		0.008	0.0003	E200.8	06/19/18 14:06 / sld			ICPMS205-H_180619C	35	R135720
METALS, TOTAL RECOVERABLE												
Aluminum	0.003	mg/L	J	0.009	0.003	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Antimony	0.0001	mg/L	J	0.0005	0.0001	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Arsenic	0.00004	mg/L	J	0.001	0.00004	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Barium	ND	mg/L		0.003	0.00009	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Boron	ND	mg/L		0.1	0.005	E200.7	06/14/18 12:10 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	233	41824
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Calcium	ND	mg/L		1	0.09	E200.7	06/14/18 12:10 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	233	41824
Chromium	ND	mg/L		0.01	0.0001	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Cobalt	ND	mg/L		0.01	0.00006	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Copper	ND	mg/L		0.001	0.0002	E200.8	07/05/18 15:49 / dck	07/03/18 08:21	E200.2	ICPMS205-H_180705B	26	42119
Iron	ND	mg/L		0.02	0.004	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Lead	ND	mg/L		0.0003	0.00004	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Magnesium	0.015	mg/L	J	1	0.009	E200.7	06/14/18 12:10 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	233	41824
Manganese	ND	mg/L		0.001	0.0003	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Mercury	ND	mg/L		5E-06	2E-06	E245.1	06/21/18 11:14 / eli-	06/20/18 13:25		SUB-B302511	51	B_122536
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Nickel	ND	mg/L		0.002	0.0001	E200.8	07/05/18 15:49 / dck	07/03/18 08:21	E200.2	ICPMS205-H_180705B	26	42119
Potassium	ND	mg/L		1	0.06	E200.7	06/14/18 12:10 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	233	41824
Selenium	ND	mg/L		0.001	0.00005	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Silver	0.000013	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Sodium	ND	mg/L		1	0.03	E200.7	06/14/18 12:10 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	233	41824
Uranium	ND	mg/L		0.0002	9E-06	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Vanadium	0.00024	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:23 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	41	41824
Zinc	ND	mg/L		0.008	0.001	E200.8	07/05/18 15:49 / dck	07/03/18 08:21	E200.2	ICPMS205-H_180705B	26	42119

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-010
Collection Date: 06/07/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	18	mg/L	D	4	0.3	A2540 D	06/11/18 13:38 / SR			l24 (14410200)_180611A	: 23	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	84	mg/L		4	2	A2320 B	06/11/18 19:32 / SR			PHSC_101-H_180611A	: 167	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 19:32 / SR			PHSC_101-H_180611A	: 167	R135427
Chloride	17	mg/L		1	0.009	E300.0	06/12/18 14:10 / SR			IC METROHM_180611B	: 69	R135509
Sulfate	37	mg/L		1	0.01	E300.0	06/12/18 14:10 / SR			IC METROHM_180611B	: 69	R135509
Hardness as CaCO3	113	mg/L		1	1	A2340 B	06/11/18 22:35 / SR			CALC_180614A	: 553	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:31 / km			FIA203-HE_180613A	: 30	R135516
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.02	0.009	E353.2	06/11/18 11:51 / km			FIA203-HE_180611B	: 131	R135443
Nitrogen, Total	0.59	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:05 / km	06/11/18 22:03	A4500 N-	FIA203-HE_180611C	: 38	41806
Phosphorus, Total as P	0.203	mg/L		0.003	0.0006	E365.1	06/13/18 13:09 / cm	06/13/18 11:01	E365.1	FIA202-HE_180613B	: 57	41854
METALS, DISSOLVED												
Aluminum	0.019	mg/L		0.009	0.003	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Antimony	0.00042	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Barium	0.028	mg/L		0.003	0.00002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Boron	0.029	mg/L	J	0.1	0.006	E200.7	06/11/18 22:35 / sld			ICP2-HE_180611C	: 125	R135476
Cadmium	0.00012	mg/L		0.00003	0.00003	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Calcium	33	mg/L		1	0.07	E200.7	06/11/18 22:35 / sld			ICP2-HE_180611C	: 125	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Copper	0.018	mg/L		0.001	0.0001	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Iron	0.19	mg/L		0.02	0.002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Magnesium	7	mg/L		1	0.1	E200.7	06/11/18 22:35 / sld			ICP2-HE_180611C	: 125	R135476
Manganese	0.081	mg/L		0.001	0.0003	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Mercury	3.7E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:12 / eli-	06/18/18 12:45		SUB-B302351	: 101	B_122535
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	: 121	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 22:35 / sld			ICP2-HE_180611C	: 125	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-010
Collection Date: 06/07/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00019	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	121	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	121	R135601
Sodium	17	mg/L		1	0.02	E200.7	06/11/18 22:35 / sld			ICP2-HE_180611C	125	R135476
Uranium	0.0022	mg/L		0.0002	0.00001	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	121	R135601
Vanadium	0.0023	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	121	R135601
Zinc	0.027	mg/L		0.008	0.0003	E200.8	06/15/18 15:31 / sld			ICPMS205-H_180615A	121	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.650	mg/L		0.009	0.003	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Arsenic	0.014	mg/L		0.001	0.00004	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Barium	0.035	mg/L		0.003	0.00009	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Boron	0.031	mg/L	J	0.1	0.005	E200.7	06/14/18 12:14 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	234	41824
Cadmium	0.00028	mg/L		0.00003	0.00003	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Calcium	33	mg/L		1	0.09	E200.7	06/14/18 12:14 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	234	41824
Chromium	0.0010	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Cobalt	0.00035	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Copper	0.028	mg/L		0.001	0.0002	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Iron	0.92	mg/L		0.02	0.004	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Lead	0.0026	mg/L		0.0003	0.00004	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Magnesium	8	mg/L		1	0.2	E200.7	06/14/18 12:14 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	234	41824
Manganese	0.155	mg/L		0.001	0.0003	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Mercury	0.0000117	mg/L		5E-06	2E-06	E245.1	06/22/18 13:03 / eli-	06/22/18 07:00		SUB-B302605	39	B_122720
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Nickel	0.0013	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 12:14 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	234	41824
Selenium	0.00020	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Silver	0.000067	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Sodium	19	mg/L		1	0.03	E200.7	06/14/18 12:14 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	234	41824
Uranium	0.0023	mg/L		0.0002	9E-06	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Vanadium	0.0035	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824
Zinc	0.052	mg/L		0.008	0.001	E200.8	06/13/18 10:25 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	42	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-011
Collection Date: 06/07/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	18	mg/L	D	4	0.3	A2540 D	06/11/18 13:39 / SR			l24 (14410200)_180611A	: 24	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	84	mg/L		4	2	A2320 B	06/11/18 19:37 / SR			PHSC_101-H_180611A	: 169	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 19:37 / SR			PHSC_101-H_180611A	: 169	R135427
Chloride	17	mg/L		1	0.009	E300.0	06/12/18 14:24 / SR			IC METROHM_180611B	: 70	R135509
Sulfate	37	mg/L		1	0.01	E300.0	06/12/18 14:24 / SR			IC METROHM_180611B	: 70	R135509
Hardness as CaCO3	112	mg/L		1	1	A2340 B	06/11/18 22:38 / SR			CALC_180619B	: 102	R135694
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:32 / km			FIA203-HE_180613A	: 31	R135516
Nitrogen, Nitrate+Nitrite as N	0.17	mg/L		0.02	0.009	E353.2	06/11/18 11:52 / km			FIA203-HE_180611B	: 132	R135443
Nitrogen, Total	0.64	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:11 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	: 43	41807
Phosphorus, Total as P	0.173	mg/L		0.003	0.0006	E365.1	06/14/18 13:44 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	: 14	41874
METALS, DISSOLVED												
Aluminum	0.020	mg/L		0.009	0.003	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Antimony	0.00043	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Barium	0.029	mg/L		0.003	0.00002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Boron	0.031	mg/L	J	0.1	0.006	E200.7	06/11/18 22:38 / sld			ICP2-HE_180611C	: 126	R135476
Cadmium	0.00012	mg/L		0.00003	0.00003	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Calcium	33	mg/L		1	0.07	E200.7	06/11/18 22:38 / sld			ICP2-HE_180611C	: 126	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Cobalt	0.00014	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Copper	0.018	mg/L		0.001	0.0001	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Iron	0.20	mg/L		0.02	0.002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Magnesium	7	mg/L		1	0.1	E200.7	06/11/18 22:38 / sld			ICP2-HE_180611C	: 126	R135476
Manganese	0.082	mg/L		0.001	0.0003	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Mercury	3.7E-06	mg/L	J	5E-06	2E-06	E245.1	06/21/18 15:08 / eli-	06/21/18 10:35		SUB-B302511	: 68	B_122698
Molybdenum	0.0043	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	: 122	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 22:38 / sld			ICP2-HE_180611C	: 126	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-011
Collection Date: 06/07/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00021	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	122	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	122	R135601
Sodium	18	mg/L		1	0.02	E200.7	06/11/18 22:38 / sld			ICP2-HE_180611C	126	R135476
Uranium	0.0023	mg/L		0.0002	0.00001	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	122	R135601
Vanadium	0.0023	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	122	R135601
Zinc	0.027	mg/L		0.008	0.0003	E200.8	06/15/18 15:33 / sld			ICPMS205-H_180615A	122	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.678	mg/L		0.009	0.003	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Antimony	0.0007	mg/L		0.0005	0.0001	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Arsenic	0.014	mg/L		0.001	0.00004	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Barium	0.036	mg/L		0.003	0.00009	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Boron	0.031	mg/L	J	0.1	0.005	E200.7	06/14/18 12:17 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	235	41824
Cadmium	0.00030	mg/L		0.00003	0.00003	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Calcium	34	mg/L		1	0.09	E200.7	06/14/18 12:17 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	235	41824
Chromium	0.0011	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Cobalt	0.00040	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Copper	0.029	mg/L		0.001	0.0002	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Iron	0.96	mg/L		0.02	0.004	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Lead	0.0028	mg/L		0.0003	0.00004	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Magnesium	8	mg/L		1	0.2	E200.7	06/14/18 12:17 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	235	41824
Manganese	0.161	mg/L		0.001	0.0003	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Mercury	0.0000179	mg/L		5E-06	2E-06	E245.1	06/25/18 13:31 / eli-	06/25/18 09:30		SUB-B302721	9	B_122776
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Nickel	0.0013	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 12:17 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	235	41824
Selenium	0.00021	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Silver	0.000068	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Sodium	19	mg/L		1	0.03	E200.7	06/14/18 12:17 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	235	41824
Uranium	0.0024	mg/L		0.0002	9E-06	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Vanadium	0.0034	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824
Zinc	0.053	mg/L		0.008	0.001	E200.8	06/13/18 10:26 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	43	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-012
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	16	mg/L	D	4	0.3	A2540 D	06/11/18 13:39 / SR			124 (14410200)_180611A	27	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	83	mg/L		4	2	A2320 B	06/11/18 19:43 / SR			PHSC_101-H_180611A	171	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 19:43 / SR			PHSC_101-H_180611A	171	R135427
Chloride	17	mg/L		1	0.009	E300.0	06/12/18 14:39 / SR			IC METROHM_180611B	71	R135509
Sulfate	36	mg/L		1	0.01	E300.0	06/12/18 14:39 / SR			IC METROHM_180611B	71	R135509
Hardness as CaCO3	110	mg/L		1	1	A2340 B	06/11/18 22:42 / SR			CALC_180614A	564	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:33 / km			FIA203-HE_180613A	32	R135516
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.02	0.009	E353.2	06/11/18 11:53 / km			FIA203-HE_180611B	133	R135443
Nitrogen, Total	0.58	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:12 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	44	41807
Phosphorus, Total as P	0.176	mg/L		0.003	0.0006	E365.1	06/14/18 13:47 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	17	41874
METALS, DISSOLVED												
Aluminum	0.019	mg/L		0.009	0.003	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Antimony	0.00042	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Barium	0.028	mg/L		0.003	0.00002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Boron	0.030	mg/L	J	0.1	0.006	E200.7	06/11/18 22:42 / sld			ICP2-HE_180611C	127	R135476
Cadmium	0.00013	mg/L		0.00003	0.00003	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Calcium	32	mg/L		1	0.07	E200.7	06/11/18 22:42 / sld			ICP2-HE_180611C	127	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Cobalt	0.00014	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Copper	0.018	mg/L		0.001	0.0001	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Iron	0.20	mg/L		0.02	0.002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Magnesium	7	mg/L		1	0.1	E200.7	06/11/18 22:42 / sld			ICP2-HE_180611C	127	R135476
Manganese	0.083	mg/L		0.001	0.0003	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Mercury	2.6E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:24 / eli-	06/18/18 12:45		SUB-B302351	104	B_122535
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 22:42 / sld			ICP2-HE_180611C	127	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-012
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00019	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Sodium	17	mg/L		1	0.02	E200.7	06/11/18 22:42 / sld			ICP2-HE_180611C	127	R135476
Uranium	0.0022	mg/L		0.0002	0.00001	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Vanadium	0.0022	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
Zinc	0.028	mg/L		0.008	0.0003	E200.8	06/15/18 15:35 / sld			ICPMS205-H_180615A	123	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.616	mg/L		0.009	0.003	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Antimony	0.0007	mg/L		0.0005	0.0001	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Arsenic	0.014	mg/L		0.001	0.00004	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Barium	0.036	mg/L		0.003	0.00009	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Boron	0.029	mg/L	J	0.1	0.005	E200.7	06/14/18 12:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	240	41824
Cadmium	0.00027	mg/L		0.00003	0.00003	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Calcium	33	mg/L		1	0.09	E200.7	06/14/18 12:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	240	41824
Chromium	0.0011	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Cobalt	0.00034	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Copper	0.038	mg/L		0.001	0.0002	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Iron	0.94	mg/L		0.02	0.004	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Lead	0.0027	mg/L		0.0003	0.00004	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Magnesium	7	mg/L		1	0.2	E200.7	06/14/18 12:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	240	41824
Manganese	0.156	mg/L		0.001	0.0003	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Mercury	0.0000133	mg/L		5E-06	2E-06	E245.1	06/22/18 13:14 / eli-	06/22/18 07:00		SUB-B302605	43	B_122720
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Nickel	0.003	mg/L		0.002	0.0001	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 12:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	240	41824
Selenium	0.00023	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Silver	0.000098	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Sodium	19	mg/L		1	0.03	E200.7	06/14/18 12:36 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	240	41824
Uranium	0.0023	mg/L		0.0002	9E-06	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Vanadium	0.0033	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824
Zinc	0.057	mg/L		0.008	0.001	E200.8	06/13/18 10:40 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	50	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-013
Collection Date: 06/07/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	19	mg/L	D	4	0.3	A2540 D	06/11/18 13:40 / SR			l24 (14410200)_180611A	29	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	85	mg/L		4	2	A2320 B	06/11/18 19:48 / SR			PHSC_101-H_180611A	173	R135427
Bicarbonate as HCO3	100	mg/L		4	2	A2320 B	06/11/18 19:48 / SR			PHSC_101-H_180611A	173	R135427
Chloride	17	mg/L		1	0.009	E300.0	06/12/18 14:53 / SR			IC METROHM_180611B	72	R135509
Sulfate	38	mg/L		1	0.01	E300.0	06/12/18 14:53 / SR			IC METROHM_180611B	72	R135509
Hardness as CaCO3	114	mg/L		1	1	A2340 B	06/11/18 22:46 / SR			CALC_180619B	113	R135694
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:35 / km			FIA203-HE_180613A	33	R135516
Nitrogen, Nitrate+Nitrite as N	0.17	mg/L		0.02	0.009	E353.2	06/11/18 11:57 / km			FIA203-HE_180611B	136	R135443
Nitrogen, Total	0.68	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:16 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	47	41807
Phosphorus, Total as P	0.188	mg/L		0.003	0.0006	E365.1	06/14/18 13:48 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	18	41874
METALS, DISSOLVED												
Aluminum	0.017	mg/L		0.009	0.003	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Antimony	0.00046	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Barium	0.028	mg/L		0.003	0.00002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Boron	0.032	mg/L	J	0.1	0.006	E200.7	06/11/18 22:46 / sld			ICP2-HE_180611C	128	R135476
Cadmium	0.00013	mg/L		0.00003	0.00003	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Calcium	33	mg/L		1	0.07	E200.7	06/11/18 22:46 / sld			ICP2-HE_180611C	128	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Copper	0.019	mg/L		0.001	0.0001	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Iron	0.19	mg/L		0.02	0.002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Magnesium	7	mg/L		1	0.1	E200.7	06/11/18 22:46 / sld			ICP2-HE_180611C	128	R135476
Manganese	0.092	mg/L		0.001	0.0003	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Mercury	4.0E-06	mg/L	J	5E-06	2E-06	E245.1	06/21/18 15:17 / eli-	06/21/18 10:35		SUB-B302511	70	B_122698
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Potassium	3	mg/L		1	0.06	E200.7	06/11/18 22:46 / sld			ICP2-HE_180611C	128	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-013
Collection Date: 06/07/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00020	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Sodium	18	mg/L		1	0.02	E200.7	06/11/18 22:46 / sld			ICP2-HE_180611C	128	R135476
Uranium	0.0021	mg/L		0.0002	0.00001	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Vanadium	0.0022	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
Zinc	0.037	mg/L		0.008	0.0003	E200.8	06/15/18 15:45 / sld			ICPMS205-H_180615A	128	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.602	mg/L		0.009	0.003	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Antimony	0.0005	mg/L		0.0005	0.0001	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Barium	0.031	mg/L		0.003	0.00009	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Boron	0.028	mg/L	J	0.1	0.005	E200.7	06/14/18 12:40 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	241	41824
Cadmium	0.00028	mg/L		0.00003	0.00003	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Calcium	29	mg/L		1	0.09	E200.7	06/14/18 12:40 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	241	41824
Chromium	0.0009	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Cobalt	0.00029	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Copper	0.027	mg/L		0.001	0.0002	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Iron	0.85	mg/L		0.02	0.004	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Lead	0.0027	mg/L		0.0003	0.00004	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Magnesium	7	mg/L		1	0.2	E200.7	06/14/18 12:40 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	241	41824
Manganese	0.152	mg/L		0.001	0.0003	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Mercury	0.0000151	mg/L		5E-06	2E-06	E245.1	06/22/18 13:20 / eli-	06/22/18 07:00		SUB-B302605	45	B_122720
Molybdenum	0.0036	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Nickel	0.0013	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Potassium	4	mg/L		1	0.06	E200.7	06/14/18 12:40 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	241	41824
Selenium	0.00018	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Silver	0.000088	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Sodium	18	mg/L		1	0.03	E200.7	06/14/18 12:40 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	241	41824
Uranium	0.0019	mg/L		0.0002	9E-06	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Vanadium	0.0029	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824
Zinc	0.064	mg/L		0.008	0.001	E200.8	06/13/18 10:42 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	51	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-014
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	15	mg/L	D	4	0.3	A2540 D	06/11/18 13:40 / SR			l24 (14410200)_180611A	30	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	78	mg/L		4	2	A2320 B	06/11/18 19:53 / SR			PHSC_101-H_180611A	175	R135427
Bicarbonate as HCO3	95	mg/L		4	2	A2320 B	06/11/18 19:53 / SR			PHSC_101-H_180611A	175	R135427
Chloride	9	mg/L		1	0.009	E300.0	06/12/18 16:21 / SR			IC METROHM_180611B	77	R135509
Sulfate	28	mg/L		1	0.01	E300.0	06/12/18 16:21 / SR			IC METROHM_180611B	77	R135509
Hardness as CaCO3	102	mg/L		1	1	A2340 B	06/11/18 22:50 / SR			CALC_180614A	575	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:36 / km			FIA203-HE_180613A	34	R135516
Nitrogen, Nitrate+Nitrite as N	0.10	mg/L		0.02	0.009	E353.2	06/11/18 12:00 / km			FIA203-HE_180611B	139	R135443
Nitrogen, Total	0.40	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:17 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	48	41807
Phosphorus, Total as P	0.109	mg/L		0.003	0.0006	E365.1	06/14/18 13:50 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	19	41874
METALS, DISSOLVED												
Aluminum	0.017	mg/L		0.009	0.003	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Antimony	0.00033	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Arsenic	0.008	mg/L		0.001	0.00004	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Barium	0.023	mg/L		0.003	0.00002	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Boron	0.018	mg/L	J	0.1	0.006	E200.7	06/11/18 22:50 / sld			ICP2-HE_180611C	129	R135476
Cadmium	0.00007	mg/L		0.00003	0.00003	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Calcium	31	mg/L		1	0.07	E200.7	06/11/18 22:50 / sld			ICP2-HE_180611C	129	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Cobalt	0.00045	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Copper	0.010	mg/L		0.001	0.0001	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Iron	0.11	mg/L		0.02	0.002	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Lead	0.00026	mg/L	J	0.0003	0.00003	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Magnesium	6	mg/L		1	0.1	E200.7	06/11/18 22:50 / sld			ICP2-HE_180611C	129	R135476
Manganese	0.051	mg/L		0.001	0.0003	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Mercury	2.2E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:30 / eli-	06/18/18 12:45		SUB-B302351	106	B_122535
Molybdenum	0.0024	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Potassium	2	mg/L		1	0.06	E200.7	06/11/18 22:50 / sld			ICP2-HE_180611C	129	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-014
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00050	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Silver	0.00006	mg/L	J	0.0002	0.00002	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Sodium	11	mg/L		1	0.02	E200.7	06/11/18 22:50 / sld			ICP2-HE_180611C	129	R135476
Uranium	0.0013	mg/L		0.0002	0.00001	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
Vanadium	0.0016	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:51 / sld			ICPMS205-H_180615A	131	R135601
Zinc	0.023	mg/L		0.008	0.0003	E200.8	06/19/18 14:08 / sld			ICPMS205-H_180619C	36	R135720
METALS, TOTAL RECOVERABLE												
Aluminum	0.480	mg/L		0.009	0.003	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Antimony	0.0005	mg/L		0.0005	0.0001	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Barium	0.028	mg/L		0.003	0.00009	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Boron	0.017	mg/L	J	0.1	0.005	E200.7	06/14/18 12:44 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	242	41824
Cadmium	0.00016	mg/L		0.00003	0.00003	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Calcium	30	mg/L		1	0.09	E200.7	06/14/18 12:44 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	242	41824
Chromium	0.0007	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Cobalt	0.00057	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Copper	0.018	mg/L		0.001	0.0002	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Iron	0.58	mg/L		0.02	0.004	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Lead	0.0018	mg/L		0.0003	0.00004	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Magnesium	6	mg/L		1	0.2	E200.7	06/14/18 12:44 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	242	41824
Manganese	0.094	mg/L		0.001	0.0003	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Mercury	0.0000112	mg/L		5E-06	2E-06	E245.1	06/22/18 13:26 / eli-	06/22/18 07:00		SUB-B302605	47	B_122720
Molybdenum	0.0023	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Potassium	3	mg/L		1	0.06	E200.7	06/14/18 12:44 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	242	41824
Selenium	0.00045	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Silver	0.000058	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Sodium	12	mg/L		1	0.03	E200.7	06/14/18 12:44 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	242	41824
Uranium	0.0013	mg/L		0.0002	9E-06	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Vanadium	0.0024	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824
Zinc	0.040	mg/L		0.008	0.001	E200.8	06/13/18 10:44 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	52	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-015
Collection Date: 06/07/18 11:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	19	mg/L	D	4	0.3	A2540 D	06/11/18 13:40 / SR			l24 (14410200)_180611A	31	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	78	mg/L		4	2	A2320 B	06/11/18 19:58 / SR			PHSC_101-H_180611A	177	R135427
Bicarbonate as HCO3	95	mg/L		4	2	A2320 B	06/11/18 19:58 / SR			PHSC_101-H_180611A	177	R135427
Chloride	9	mg/L		1	0.009	E300.0	06/12/18 16:35 / SR			IC METROHM_180611B	78	R135509
Sulfate	29	mg/L		1	0.01	E300.0	06/12/18 16:35 / SR			IC METROHM_180611B	78	R135509
Hardness as CaCO3	99	mg/L		1	1	A2340 B	06/17/18 16:09 / sld			WATERCALC_180617A	2	R135631
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:37 / km			FIA203-HE_180613A	35	R135516
Nitrogen, Nitrate+Nitrite as N	0.10	mg/L		0.02	0.009	E353.2	06/11/18 12:01 / km			FIA203-HE_180611B	140	R135443
Nitrogen, Total	0.39	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:18 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	49	41807
Phosphorus, Total as P	0.116	mg/L		0.003	0.0006	E365.1	06/14/18 13:51 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	20	41874
METALS, DISSOLVED												
Aluminum	0.015	mg/L		0.009	0.003	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Antimony	0.00036	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Barium	0.022	mg/L		0.003	0.00002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Boron	0.018	mg/L	J	0.1	0.006	E200.7	06/11/18 22:53 / sld			ICP2-HE_180611C	130	R135476
Cadmium	0.00008	mg/L		0.00003	0.00003	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Calcium	30	mg/L		1	0.07	E200.7	06/11/18 22:53 / sld			ICP2-HE_180611C	130	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Cobalt	0.00045	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Copper	0.011	mg/L		0.001	0.0001	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Iron	0.11	mg/L		0.02	0.002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Lead	0.00028	mg/L	J	0.0003	0.00003	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Magnesium	6	mg/L		1	0.1	E200.7	06/11/18 22:53 / sld			ICP2-HE_180611C	130	R135476
Manganese	0.057	mg/L		0.001	0.0003	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Mercury	ND	mg/L		5E-06	2E-06	E245.1	06/19/18 16:33 / eli-	06/18/18 12:45		SUB-B302351	107	B_122535
Molybdenum	0.0023	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Potassium	2	mg/L		1	0.06	E200.7	06/11/18 22:53 / sld			ICP2-HE_180611C	130	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-015
Collection Date: 06/07/18 11:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00046	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Silver	0.00002	mg/L	J	0.0002	0.00002	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Sodium	11	mg/L		1	0.02	E200.7	06/11/18 22:53 / sld			ICP2-HE_180611C	130	R135476
Uranium	0.0013	mg/L		0.0002	0.00001	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Vanadium	0.0016	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
Zinc	0.025	mg/L		0.008	0.0003	E200.8	06/15/18 15:53 / sld			ICPMS205-H_180615A	132	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.630	mg/L		0.009	0.003	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Arsenic	0.010	mg/L		0.001	0.00004	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Barium	0.030	mg/L		0.003	0.00009	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Boron	0.019	mg/L	J	0.1	0.005	E200.7	06/14/18 12:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	245	41824
Cadmium	0.00019	mg/L		0.00003	0.00003	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Calcium	30	mg/L		1	0.09	E200.7	06/14/18 12:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	245	41824
Chromium	0.0007	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Cobalt	0.00067	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Copper	0.019	mg/L		0.001	0.0002	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Iron	0.69	mg/L		0.02	0.004	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Lead	0.0024	mg/L		0.0003	0.00004	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Magnesium	6	mg/L		1	0.2	E200.7	06/14/18 12:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	245	41824
Manganese	0.108	mg/L		0.001	0.0003	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Mercury	0.0000157	mg/L		5E-06	2E-06	E245.1	06/22/18 13:32 / eli-	06/22/18 07:00		SUB-B302605	49	B_122720
Molybdenum	0.0022	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Potassium	3	mg/L		1	0.06	E200.7	06/14/18 12:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	245	41824
Selenium	0.00042	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Silver	0.000066	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Sodium	12	mg/L		1	0.03	E200.7	06/14/18 12:55 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	245	41824
Uranium	0.0013	mg/L		0.0002	9E-06	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Vanadium	0.0027	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824
Zinc	0.047	mg/L		0.008	0.001	E200.8	06/13/18 10:46 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	53	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-016
Collection Date: 06/07/18 09:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	22	mg/L	D	4	0.3	A2540 D	06/11/18 13:41 / SR			l24 (14410200)_180611A	: 32	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	79	mg/L		4	2	A2320 B	06/11/18 20:03 / SR			PHSC_101-H_180611A	: 179	R135427
Bicarbonate as HCO3	96	mg/L		4	2	A2320 B	06/11/18 20:03 / SR			PHSC_101-H_180611A	: 179	R135427
Chloride	9	mg/L		1	0.009	E300.0	06/12/18 16:50 / SR			IC METROHM_180611B	: 79	R135509
Sulfate	30	mg/L		1	0.01	E300.0	06/12/18 16:50 / SR			IC METROHM_180611B	: 79	R135509
Hardness as CaCO3	101	mg/L		1	1	A2340 B	06/11/18 22:57 / SR			CALC_180614A	: 586	R135568
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:38 / km			FIA203-HE_180613A	: 36	R135516
Nitrogen, Nitrate+Nitrite as N	0.10	mg/L		0.02	0.009	E353.2	06/11/18 12:02 / km			FIA203-HE_180611B	: 141	R135443
Nitrogen, Total	0.42	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:19 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	: 50	41807
Phosphorus, Total as P	0.120	mg/L		0.003	0.0006	E365.1	06/14/18 13:52 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	: 21	41874
METALS, DISSOLVED												
Aluminum	0.014	mg/L		0.009	0.003	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Antimony	0.00037	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Barium	0.023	mg/L		0.003	0.00002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Boron	0.019	mg/L	J	0.1	0.006	E200.7	06/11/18 22:57 / sld			ICP2-HE_180611C	: 131	R135476
Cadmium	0.00009	mg/L		0.00003	0.00003	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Calcium	31	mg/L		1	0.07	E200.7	06/11/18 22:57 / sld			ICP2-HE_180611C	: 131	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Cobalt	0.00046	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Copper	0.012	mg/L		0.001	0.0001	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Iron	0.12	mg/L		0.02	0.002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Lead	0.0003	mg/L		0.0003	0.00003	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Magnesium	6	mg/L		1	0.1	E200.7	06/11/18 22:57 / sld			ICP2-HE_180611C	: 131	R135476
Manganese	0.069	mg/L		0.001	0.0003	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Mercury	2.2E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:36 / eli-	06/18/18 12:45		SUB-B302351	: 108	B_122535
Molybdenum	0.0024	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	: 133	R135601
Potassium	2	mg/L		1	0.06	E200.7	06/11/18 22:57 / sld			ICP2-HE_180611C	: 131	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-016
Collection Date: 06/07/18 09:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00043	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	133	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	133	R135601
Sodium	12	mg/L		1	0.02	E200.7	06/11/18 22:57 / sld			ICP2-HE_180611C	131	R135476
Uranium	0.0013	mg/L		0.0002	0.00001	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	133	R135601
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	133	R135601
Zinc	0.028	mg/L		0.008	0.0003	E200.8	06/15/18 15:55 / sld			ICPMS205-H_180615A	133	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.767	mg/L		0.009	0.003	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Antimony	0.0005	mg/L		0.0005	0.0001	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Barium	0.033	mg/L		0.003	0.00009	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Boron	0.020	mg/L	J	0.1	0.005	E200.7	06/14/18 12:59 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	246	41824
Cadmium	0.00025	mg/L		0.00003	0.00003	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Calcium	32	mg/L		1	0.09	E200.7	06/14/18 12:59 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	246	41824
Chromium	0.0009	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Cobalt	0.00070	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Copper	0.041	mg/L		0.001	0.0002	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Iron	0.87	mg/L		0.02	0.004	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Lead	0.0154	mg/L		0.0003	0.00004	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Magnesium	6	mg/L		1	0.2	E200.7	06/14/18 12:59 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	246	41824
Manganese	0.135	mg/L		0.001	0.0003	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Mercury	0.0000207	mg/L		5E-06	2E-06	E245.1	06/22/18 13:35 / eli-	06/22/18 07:00		SUB-B302605	50	B_122720
Molybdenum	0.0023	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Potassium	3	mg/L		1	0.06	E200.7	06/14/18 12:59 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	246	41824
Selenium	0.00046	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Silver	0.000073	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Sodium	12	mg/L		1	0.03	E200.7	06/14/18 12:59 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	246	41824
Uranium	0.0016	mg/L		0.0002	9E-06	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Vanadium	0.0031	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824
Zinc	0.060	mg/L		0.008	0.001	E200.8	06/13/18 10:48 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	54	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-017
Collection Date: 06/07/18 09:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	24	mg/L	D	4	0.3	A2540 D	06/11/18 13:41 / SR			l24 (14410200)_180611A	33	TSS180611A
INORGANICS												
Alkalinity, Total as CaCO3	81	mg/L		4	2	A2320 B	06/11/18 20:09 / SR			PHSC_101-H_180611A	181	R135427
Bicarbonate as HCO3	99	mg/L		4	2	A2320 B	06/11/18 20:09 / SR			PHSC_101-H_180611A	181	R135427
Chloride	9	mg/L		1	0.009	E300.0	06/12/18 17:04 / SR			IC METROHM_180611B	80	R135509
Sulfate	30	mg/L		1	0.01	E300.0	06/12/18 17:04 / SR			IC METROHM_180611B	80	R135509
Hardness as CaCO3	103	mg/L		1	1	A2340 B	06/11/18 23:01 / SR			CALC_180619B	135	R135694
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	06/13/18 10:42 / km			FIA203-HE_180613A	39	R135516
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.02	0.009	E353.2	06/11/18 12:04 / km			FIA203-HE_180611B	142	R135443
Nitrogen, Total	0.43	mg/L		0.05	0.01	A4500 N-C	06/11/18 16:21 / km	06/11/18 22:10	A4500 N-	FIA203-HE_180611C	51	41807
Phosphorus, Total as P	0.126	mg/L		0.003	0.0006	E365.1	06/14/18 13:53 / cm	06/14/18 11:56	E365.1	FIA202-HE_180614C	22	41874
METALS, DISSOLVED												
Aluminum	0.014	mg/L		0.009	0.003	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Antimony	0.00036	mg/L	J	0.0005	0.00009	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Barium	0.023	mg/L		0.003	0.00002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Boron	0.018	mg/L	J	0.1	0.006	E200.7	06/11/18 23:01 / sld			ICP2-HE_180611C	132	R135476
Cadmium	0.00010	mg/L		0.00003	0.00003	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Calcium	31	mg/L		1	0.07	E200.7	06/11/18 23:01 / sld			ICP2-HE_180611C	132	R135476
Chromium	ND	mg/L		0.01	0.0002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Cobalt	0.00046	mg/L	J	0.01	0.00009	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Copper	0.012	mg/L		0.001	0.0001	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Iron	0.12	mg/L		0.02	0.002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Magnesium	6	mg/L		1	0.1	E200.7	06/11/18 23:01 / sld			ICP2-HE_180611C	132	R135476
Manganese	0.066	mg/L		0.001	0.0003	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Mercury	3.5E-06	mg/L	J	5E-06	2E-06	E245.1	06/19/18 16:39 / eli-	06/18/18 12:45		SUB-B302351	109	B_122535
Molybdenum	0.0024	mg/L	J	0.005	0.00002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Potassium	2	mg/L		1	0.06	E200.7	06/11/18 23:01 / sld			ICP2-HE_180611C	132	R135476

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18060191-017
Collection Date: 06/07/18 09:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00040	mg/L	J	0.001	0.00002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Silver	ND	mg/L		0.0002	0.00002	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Sodium	12	mg/L		1	0.02	E200.7	06/11/18 23:01 / sld			ICP2-HE_180611C	132	R135476
Uranium	0.0014	mg/L		0.0002	0.00001	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
Zinc	0.030	mg/L		0.008	0.0003	E200.8	06/15/18 15:57 / sld			ICPMS205-H_180615A	134	R135601
METALS, TOTAL RECOVERABLE												
Aluminum	0.812	mg/L		0.009	0.003	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Barium	0.033	mg/L		0.003	0.00009	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Boron	0.021	mg/L	J	0.1	0.005	E200.7	06/14/18 13:03 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	247	41824
Cadmium	0.00031	mg/L		0.00003	0.00003	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Calcium	32	mg/L		1	0.09	E200.7	06/14/18 13:03 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	247	41824
Chromium	0.0009	mg/L	J	0.01	0.0001	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Cobalt	0.00076	mg/L	J	0.01	0.00006	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Copper	0.025	mg/L		0.001	0.0002	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Iron	0.93	mg/L		0.02	0.004	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Lead	0.0035	mg/L		0.0003	0.00004	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Magnesium	6	mg/L		1	0.2	E200.7	06/14/18 13:03 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	247	41824
Manganese	0.134	mg/L		0.001	0.0003	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Mercury	0.0000231	mg/L		5E-06	2E-06	E245.1	06/22/18 14:02 / eli-	06/22/18 07:00		SUB-B302605	57	B_122722
Molybdenum	0.0026	mg/L	J	0.005	0.00002	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Nickel	0.0011	mg/L	J	0.002	0.0001	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Potassium	3	mg/L		1	0.06	E200.7	06/14/18 13:03 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	247	41824
Selenium	0.00049	mg/L	J	0.001	0.00005	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Silver	0.000089	mg/L	J	0.0002	9E-06	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Sodium	13	mg/L		1	0.03	E200.7	06/14/18 13:03 / sld	06/12/18 08:47	E200.2	ICP2-HE_180613B	247	41824
Uranium	0.0016	mg/L		0.0002	9E-06	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Vanadium	0.0034	mg/L	J	0.1	0.00002	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824
Zinc	0.062	mg/L		0.008	0.001	E200.8	06/13/18 10:50 / sld	06/12/18 08:47	E200.2	ICPMS205-H_180613A	55	41824

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-018
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	65.1	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			)RYING OVEN 2_180626B	2	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.1	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	12	R135650
3050 EXTRACTABLE METALS												
Aluminum	24000	mg/kg-dry	D	30	30	SW6010B	06/25/18 20:16 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	79	41894
Antimony	3	mg/kg-dry	J	5	2	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Arsenic	170	mg/kg-dry		5	0.6	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Barium	506	mg/kg-dry		5	3	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Beryllium	1.1	mg/kg-dry	J	5	0.8	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Boron	15	mg/kg-dry		5	3	SW6010B	06/25/18 20:16 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	79	41894
Cadmium	13.8	mg/kg-dry		0.3	0.3	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Chromium	127	mg/kg-dry		5	2	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Cobalt	24	mg/kg-dry		5	3	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Copper	1240	mg/kg-dry		8	8	SW6010B	06/25/18 20:16 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	79	41894
Iron	43000	mg/kg-dry	D	200	200	SW6010B	06/25/18 20:16 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	79	41894
Lead	741	mg/kg-dry		5	1	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Manganese	6280	mg/kg-dry		5	2	SW6010B	06/25/18 20:16 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	79	41894
Molybdenum	21	mg/kg-dry		5	0.5	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Nickel	66	mg/kg-dry		5	1	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Selenium	2	mg/kg-dry	J	5	1	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Silver	59	mg/kg-dry		5	0.5	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Uranium	14	mg/kg-dry		5	0.3	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Vanadium	103	mg/kg-dry		1	1	SW6020	06/20/18 22:28 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	158	41894
Zinc	2570	mg/kg-dry		9	9	SW6010B	06/25/18 20:16 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	79	41894
METALS, TOTAL												
Mercury	1.1	mg/kg-dry		0.10	0.0089	SW7471B	06/20/18 16:56 / dck	06/15/18 17:54	SW7471B	HGCV201-H_180620B	37	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-019
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.5	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			)RYING OVEN 2_180626B	4	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	23.9	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	13	R135650
3050 EXTRACTABLE METALS												
Aluminum	4240	mg/kg-dry	D	10	10	SW6010B	06/25/18 21:52 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	105	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Arsenic	29	mg/kg-dry		5	0.2	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Barium	97	mg/kg-dry		5	1	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Boron	3	mg/kg-dry	J	5	1	SW6010B	06/25/18 21:52 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	105	41895
Cadmium	1.0	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Chromium	12	mg/kg-dry		5	0.7	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Cobalt	5	mg/kg-dry	J	5	1	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Copper	238	mg/kg-dry		5	3	SW6010B	06/25/18 21:52 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	105	41895
Iron	17900	mg/kg-dry	D	70	70	SW6010B	06/25/18 21:52 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	105	41895
Lead	111	mg/kg-dry		5	0.4	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Manganese	1560	mg/kg-dry		5	1	SW6010B	06/25/18 21:52 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	105	41895
Molybdenum	1.8	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Nickel	4.4	mg/kg-dry	J	5	0.5	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Silver	2.2	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Uranium	1.7	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Vanadium	43	mg/kg-dry		1	0.5	SW6020	06/20/18 23:34 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	192	41895
Zinc	503	mg/kg-dry		5	4	SW6010B	06/25/18 21:52 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	105	41895
METALS, TOTAL												
Mercury	0.24	mg/kg-dry		0.10	0.0039	SW7471B	06/20/18 17:56 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	65	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-020
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	16.9	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			)RYING OVEN 2_180626B	8	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	31.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	14	R135650
3050 EXTRACTABLE METALS												
Aluminum	3080	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	139	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Arsenic	32	mg/kg-dry		5	0.2	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Barium	69	mg/kg-dry		5	1	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	139	41896
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Chromium	4.0	mg/kg-dry	J	5	0.7	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Copper	115	mg/kg-dry		5	3	SW6010B	06/26/18 00:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	139	41896
Iron	8020	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	139	41896
Lead	37	mg/kg-dry		5	0.4	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Manganese	952	mg/kg-dry		5	1	SW6010B	06/26/18 00:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	139	41896
Molybdenum	1.8	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Nickel	2.5	mg/kg-dry	J	5	0.5	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Silver	0.6	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Uranium	1.7	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Vanadium	13	mg/kg-dry		1	0.4	SW6020	06/21/18 00:40 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	226	41896
Zinc	189	mg/kg-dry		5	4	SW6010B	06/26/18 00:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	139	41896
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0038	SW7471B	06/20/18 18:52 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	93	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Duplicate Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-021
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	67.9	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	10	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	0.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	15	R135650
3050 EXTRACTABLE METALS												
Aluminum	23800	mg/kg-dry	D	60	60	SW6010B	06/25/18 20:20 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	80	41894
Antimony	ND	mg/kg-dry		5	5	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Arsenic	173	mg/kg-dry		5	1	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Barium	664	mg/kg-dry		5	5	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Beryllium	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Boron	14	mg/kg-dry		5	5	SW6010B	06/25/18 20:20 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	80	41894
Cadmium	12.8	mg/kg-dry		0.5	0.5	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Chromium	191	mg/kg-dry		5	3	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Cobalt	30	mg/kg-dry		5	5	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Copper	1130	mg/kg-dry		20	20	SW6010B	06/25/18 20:20 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	80	41894
Iron	47200	mg/kg-dry	D	300	300	SW6010B	06/25/18 20:20 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	80	41894
Lead	871	mg/kg-dry		5	2	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Manganese	12000	mg/kg-dry		5	5	SW6010B	06/25/18 20:20 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	80	41894
Molybdenum	22	mg/kg-dry		5	1	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Nickel	102	mg/kg-dry		5	2	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Selenium	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Silver	69	mg/kg-dry		5	1	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Uranium	10	mg/kg-dry		5	0.6	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Vanadium	106	mg/kg-dry		2	2	SW6020	06/20/18 22:30 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	159	41894
Zinc	2310	mg/kg-dry	D	20	20	SW6010B	06/25/18 20:20 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	80	41894
METALS, TOTAL												
Mercury	1.1	mg/kg-dry		0.10	0.011	SW7471B	06/20/18 16:58 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	38	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Duplicate Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-022
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.4	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	12	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	29.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	16	R135650
3050 EXTRACTABLE METALS												
Aluminum	4070	mg/kg-dry	D	10	10	SW6010B	06/25/18 21:56 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	106	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Arsenic	28	mg/kg-dry		5	0.2	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Barium	89	mg/kg-dry		5	1	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Boron	1	mg/kg-dry	J	5	1	SW6010B	06/25/18 21:56 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	106	41895
Cadmium	1.6	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Chromium	11	mg/kg-dry		5	0.8	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Copper	117	mg/kg-dry		5	3	SW6010B	06/25/18 21:56 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	106	41895
Iron	18100	mg/kg-dry	D	70	70	SW6010B	06/25/18 21:56 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	106	41895
Lead	89	mg/kg-dry		5	0.5	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Manganese	1350	mg/kg-dry		5	1	SW6010B	06/25/18 21:56 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	106	41895
Molybdenum	1.2	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Nickel	3.9	mg/kg-dry	J	5	0.5	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Silver	1.6	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Uranium	1.4	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Vanadium	45	mg/kg-dry		1	0.5	SW6020	06/20/18 23:36 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	193	41895
Zinc	492	mg/kg-dry		5	4	SW6010B	06/25/18 21:56 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	106	41895
METALS, TOTAL												
Mercury	0.1	mg/kg-dry	J	0.10	0.0041	SW7471B	06/20/18 17:58 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	66	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Duplicate Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-023
Collection Date: 06/07/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	15.9	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	14	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	25.9	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	17	R135650
3050 EXTRACTABLE METALS												
Aluminum	3730	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:03 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	140	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Arsenic	25	mg/kg-dry		5	0.2	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Barium	66	mg/kg-dry		5	1	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 00:03 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	140	41896
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Chromium	5	mg/kg-dry		5	0.7	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Copper	72	mg/kg-dry		5	3	SW6010B	06/26/18 00:03 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	140	41896
Iron	8760	mg/kg-dry	D	60	60	SW6010B	06/26/18 00:03 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	140	41896
Lead	54	mg/kg-dry		5	0.4	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Manganese	1100	mg/kg-dry		5	1	SW6010B	06/26/18 00:03 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	140	41896
Molybdenum	1.0	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Nickel	3.6	mg/kg-dry	J	5	0.4	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Silver	0.2	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Uranium	1.9	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Vanadium	18	mg/kg-dry		1	0.4	SW6020	06/21/18 00:42 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	227	41896
Zinc	230	mg/kg-dry		5	3	SW6010B	06/26/18 00:03 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	140	41896
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0037	SW7471B	06/20/18 18:54 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	94	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-024
Collection Date: 06/07/18 14:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	60.6	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	18	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.5	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	18	R135650
3050 EXTRACTABLE METALS												
Aluminum	19000	mg/kg-dry	D	30	30	SW6010B	06/25/18 20:23 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	81	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Arsenic	153	mg/kg-dry		5	0.5	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Barium	449	mg/kg-dry		5	2	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Beryllium	0.8	mg/kg-dry	J	5	0.8	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Boron	11	mg/kg-dry		5	2	SW6010B	06/25/18 20:23 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	81	41894
Cadmium	8.9	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Chromium	106	mg/kg-dry		5	2	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Cobalt	30	mg/kg-dry		5	2	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Copper	1020	mg/kg-dry		7	7	SW6010B	06/25/18 20:23 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	81	41894
Iron	41700	mg/kg-dry	D	100	100	SW6010B	06/25/18 20:23 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	81	41894
Lead	514	mg/kg-dry		5	0.9	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Manganese	7470	mg/kg-dry		5	2	SW6010B	06/25/18 20:23 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	81	41894
Molybdenum	19	mg/kg-dry		5	0.4	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Nickel	56	mg/kg-dry		5	1	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Selenium	1.8	mg/kg-dry	J	5	0.9	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Silver	24	mg/kg-dry		5	0.4	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Uranium	10	mg/kg-dry		5	0.3	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Vanadium	89	mg/kg-dry		1	0.9	SW6020	06/20/18 22:32 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	160	41894
Zinc	2090	mg/kg-dry		8	8	SW6010B	06/25/18 20:23 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	81	41894
METALS, TOTAL												
Mercury	1.1	mg/kg-dry		0.11	0.037	SW7471B	06/20/18 19:41 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	113	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-025
Collection Date: 06/07/18 14:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.8	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	20	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	38.2	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	19	R135650
3050 EXTRACTABLE METALS												
Aluminum	3820	mg/kg-dry	D	10	10	SW6010B	06/25/18 22:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	107	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Arsenic	35	mg/kg-dry		5	0.2	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Barium	80	mg/kg-dry		5	1	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/25/18 22:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	107	41895
Cadmium	1.1	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Chromium	13	mg/kg-dry		5	0.7	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Cobalt	7	mg/kg-dry		5	1	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Copper	168	mg/kg-dry		5	3	SW6010B	06/25/18 22:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	107	41895
Iron	24100	mg/kg-dry	D	60	60	SW6010B	06/25/18 22:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	107	41895
Lead	64	mg/kg-dry		5	0.4	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Manganese	1250	mg/kg-dry		5	1	SW6010B	06/25/18 22:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	107	41895
Molybdenum	1.6	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Nickel	5	mg/kg-dry		5	0.4	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Silver	1.4	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Uranium	1.6	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Vanadium	52	mg/kg-dry		1	0.4	SW6020	06/20/18 23:38 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	194	41895
Zinc	542	mg/kg-dry		5	4	SW6010B	06/25/18 22:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	107	41895
METALS, TOTAL												
Mercury	0.13	mg/kg-dry		0.10	0.0040	SW7471B	06/20/18 18:00 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	67	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-026
Collection Date: 06/07/18 14:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	14.7	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	22	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	35.8	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	20	R135650
3050 EXTRACTABLE METALS												
Aluminum	2970	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:07 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	141	41896
Antimony	ND	mg/kg-dry		5	0.9	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Arsenic	21	mg/kg-dry		5	0.2	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Barium	69	mg/kg-dry		5	1	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 00:07 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	141	41896
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Chromium	3.8	mg/kg-dry	J	5	0.7	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Copper	93	mg/kg-dry		5	3	SW6010B	06/26/18 00:07 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	141	41896
Iron	7380	mg/kg-dry	D	60	60	SW6010B	06/26/18 00:07 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	141	41896
Lead	53	mg/kg-dry		5	0.4	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Manganese	1020	mg/kg-dry		5	0.9	SW6010B	06/26/18 00:07 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	141	41896
Molybdenum	1.0	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Nickel	2.5	mg/kg-dry	J	5	0.4	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Silver	0.7	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Vanadium	14	mg/kg-dry		1	0.4	SW6020	06/21/18 00:44 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	228	41896
Zinc	171	mg/kg-dry		5	3	SW6010B	06/26/18 00:07 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	141	41896
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0039	SW7471B	06/20/18 18:56 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	95	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-027
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	53.8	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	24	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.1	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	21	R135650
3050 EXTRACTABLE METALS												
Aluminum	24600	mg/kg-dry	D	40	40	SW6010B	06/25/18 20:27 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	82	41894
Antimony	ND	mg/kg-dry		5	3	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Arsenic	77	mg/kg-dry		5	0.7	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Barium	365	mg/kg-dry		5	4	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Beryllium	ND	mg/kg-dry		5	1	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Boron	11	mg/kg-dry		5	4	SW6010B	06/25/18 20:27 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	82	41894
Cadmium	11.5	mg/kg-dry		0.3	0.3	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Chromium	126	mg/kg-dry		5	2	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Cobalt	14	mg/kg-dry		5	4	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Copper	626	mg/kg-dry		10	10	SW6010B	06/25/18 20:27 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	82	41894
Iron	32400	mg/kg-dry	D	200	200	SW6010B	06/25/18 20:27 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	82	41894
Lead	409	mg/kg-dry		5	1	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Manganese	4140	mg/kg-dry		5	3	SW6010B	06/25/18 20:27 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	82	41894
Molybdenum	8	mg/kg-dry		5	0.6	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Nickel	63	mg/kg-dry		5	1	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Selenium	ND	mg/kg-dry		5	1	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Silver	8	mg/kg-dry		5	0.7	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Uranium	6	mg/kg-dry		5	0.4	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Vanadium	60	mg/kg-dry		1	1	SW6020	06/20/18 22:34 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	161	41894
Zinc	1470	mg/kg-dry		10	10	SW6010B	06/25/18 20:27 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	82	41894
METALS, TOTAL												
Mercury	1.2	mg/kg-dry		0.12	0.040	SW7471B	06/20/18 19:43 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	114	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-028
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.0	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	26	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	34.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	22	R135650
3050 EXTRACTABLE METALS												
Aluminum	6540	mg/kg-dry	D	10	10	SW6010B	06/25/18 22:03 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	108	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Arsenic	12	mg/kg-dry		5	0.2	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Barium	97	mg/kg-dry		5	1	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Boron	3	mg/kg-dry	J	5	1	SW6010B	06/25/18 22:03 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	108	41895
Cadmium	1.7	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Chromium	7	mg/kg-dry		5	0.7	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Copper	105	mg/kg-dry		5	3	SW6010B	06/25/18 22:03 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	108	41895
Iron	10900	mg/kg-dry	D	70	70	SW6010B	06/25/18 22:03 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	108	41895
Lead	49	mg/kg-dry		5	0.4	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Manganese	1030	mg/kg-dry		5	1	SW6010B	06/25/18 22:03 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	108	41895
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Nickel	3.8	mg/kg-dry	J	5	0.5	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Silver	1.2	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Vanadium	22	mg/kg-dry		1	0.5	SW6020	06/20/18 23:40 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	195	41895
Zinc	332	mg/kg-dry		5	4	SW6010B	06/25/18 22:03 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	108	41895
METALS, TOTAL												
Mercury	0.21	mg/kg-dry		0.10	0.0040	SW7471B	06/20/18 18:02 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	68	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-029
Collection Date: 06/07/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	16.3	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	28	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	34.9	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	23	R135650
3050 EXTRACTABLE METALS												
Aluminum	5330	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:11 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	142	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Arsenic	18	mg/kg-dry		5	0.2	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Barium	73	mg/kg-dry		5	1	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Boron	1	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:11 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	142	41896
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Chromium	6	mg/kg-dry		5	0.7	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Cobalt	2	mg/kg-dry	J	5	1	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Copper	110	mg/kg-dry		5	3	SW6010B	06/26/18 00:11 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	142	41896
Iron	8250	mg/kg-dry	D	60	60	SW6010B	06/26/18 00:11 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	142	41896
Lead	72	mg/kg-dry		5	0.4	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Manganese	734	mg/kg-dry		5	1	SW6010B	06/26/18 00:11 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	142	41896
Molybdenum	1.0	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Nickel	2.7	mg/kg-dry	J	5	0.4	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Uranium	1.6	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Vanadium	16	mg/kg-dry		1	0.4	SW6020	06/21/18 00:46 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	229	41896
Zinc	147	mg/kg-dry		5	3	SW6010B	06/26/18 00:11 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	142	41896
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0038	SW7471B	06/20/18 18:58 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	96	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-030
Collection Date: 06/07/18 11:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	59.3	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	32	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	19.5	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	24	R135650
3050 EXTRACTABLE METALS												
Aluminum	31300	mg/kg-dry	D	20	20	SW6010B	06/25/18 20:31 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	83	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Arsenic	35	mg/kg-dry		5	0.4	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Barium	253	mg/kg-dry		5	2	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Beryllium	1.2	mg/kg-dry	J	5	0.7	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Boron	9	mg/kg-dry		5	2	SW6010B	06/25/18 20:31 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	83	41894
Cadmium	5.4	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Chromium	35	mg/kg-dry		5	1	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Cobalt	10	mg/kg-dry		5	2	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Copper	341	mg/kg-dry		6	6	SW6010B	06/25/18 20:31 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	83	41894
Iron	28600	mg/kg-dry	D	100	100	SW6010B	06/25/18 20:31 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	83	41894
Lead	146	mg/kg-dry		5	0.9	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Manganese	1760	mg/kg-dry		5	2	SW6010B	06/25/18 20:31 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	83	41894
Molybdenum	3.6	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Nickel	19	mg/kg-dry		5	0.9	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Selenium	ND	mg/kg-dry		5	0.8	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Silver	2.5	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Uranium	4.5	mg/kg-dry	J	5	0.2	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Vanadium	41	mg/kg-dry		1	0.9	SW6020	06/20/18 22:36 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	162	41894
Zinc	1050	mg/kg-dry		7	7	SW6010B	06/25/18 20:31 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	83	41894
METALS, TOTAL												
Mercury	0.51	mg/kg-dry		0.10	0.0079	SW7471B	06/20/18 17:08 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	43	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-031
Collection Date: 06/07/18 11:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	28.6	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	34	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	56.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	25	R135650
3050 EXTRACTABLE METALS												
Aluminum	15000	mg/kg-dry	D	10	10	SW6010B	06/25/18 22:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	109	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Arsenic	20	mg/kg-dry		5	0.3	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Barium	182	mg/kg-dry		5	1	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Beryllium	0.7	mg/kg-dry	J	5	0.4	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/25/18 22:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	109	41895
Cadmium	2.5	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Chromium	16	mg/kg-dry		5	0.8	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Cobalt	6	mg/kg-dry		5	1	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Copper	145	mg/kg-dry		5	2	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Iron	30600	mg/kg-dry	D	70	70	SW6010B	06/25/18 22:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	109	41895
Lead	55	mg/kg-dry		5	0.5	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Manganese	1180	mg/kg-dry		5	1	SW6010B	06/25/18 22:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	109	41895
Molybdenum	1.2	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Nickel	4.8	mg/kg-dry	J	5	0.5	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Silver	0.8	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Uranium	6	mg/kg-dry		5	0.1	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Vanadium	74	mg/kg-dry		1	0.5	SW6020	06/20/18 23:42 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	196	41895
Zinc	411	mg/kg-dry		5	4	SW6010B	06/25/18 22:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	109	41895
METALS, TOTAL												
Mercury	0.43	mg/kg-dry		0.10	0.0045	SW7471B	06/20/18 18:08 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	71	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-032
Collection Date: 06/07/18 11:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	33.9	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	36	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	7.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	26	R135650
3050 EXTRACTABLE METALS												
Aluminum	10600	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:15 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	143	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Arsenic	15	mg/kg-dry		5	0.3	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Barium	185	mg/kg-dry		5	1	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Beryllium	0.6	mg/kg-dry	J	5	0.4	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:15 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	143	41896
Cadmium	1.9	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Chromium	3.5	mg/kg-dry	J	5	0.9	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Cobalt	5	mg/kg-dry	J	5	1	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Copper	87	mg/kg-dry		5	4	SW6010B	06/26/18 00:15 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	143	41896
Iron	11000	mg/kg-dry	D	80	80	SW6010B	06/26/18 00:15 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	143	41896
Lead	50	mg/kg-dry		5	0.6	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Manganese	1460	mg/kg-dry		5	1	SW6010B	06/26/18 00:15 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	143	41896
Molybdenum	0.6	mg/kg-dry	J	5	0.3	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Nickel	2.6	mg/kg-dry	J	5	0.6	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Silver	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Uranium	2.1	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Vanadium	14	mg/kg-dry		1	0.6	SW6020	06/21/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	230	41896
Zinc	280	mg/kg-dry		5	5	SW6010B	06/26/18 00:15 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	143	41896
METALS, TOTAL												
Mercury	0.13	mg/kg-dry		0.10	0.0050	SW7471B	06/20/18 19:04 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	99	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-033
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	55.0	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	38	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	27	R135650
3050 EXTRACTABLE METALS												
Aluminum	29800	mg/kg-dry	D	20	20	SW6010B	06/25/18 20:34 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	84	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Arsenic	37	mg/kg-dry		5	0.4	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Barium	383	mg/kg-dry		5	2	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Beryllium	1.1	mg/kg-dry	J	5	0.6	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Boron	12	mg/kg-dry		5	2	SW6010B	06/25/18 20:34 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	84	41894
Cadmium	4.5	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Chromium	47	mg/kg-dry		5	1	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Cobalt	13	mg/kg-dry		5	2	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Copper	362	mg/kg-dry		6	6	SW6010B	06/25/18 20:34 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	84	41894
Iron	27100	mg/kg-dry	D	100	100	SW6010B	06/25/18 20:34 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	84	41894
Lead	160	mg/kg-dry		5	0.8	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Manganese	3390	mg/kg-dry		5	2	SW6010B	06/25/18 20:34 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	84	41894
Molybdenum	4.6	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Nickel	29	mg/kg-dry		5	0.8	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Selenium	0.8	mg/kg-dry	J	5	0.8	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Silver	2.7	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Uranium	7	mg/kg-dry		5	0.2	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Vanadium	55	mg/kg-dry		1	0.8	SW6020	06/20/18 22:38 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	163	41894
Zinc	683	mg/kg-dry		6	6	SW6010B	06/25/18 20:34 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	84	41894
METALS, TOTAL												
Mercury	0.36	mg/kg-dry		0.10	0.0069	SW7471B	06/20/18 17:10 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	44	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-034
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.2	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	40	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	25.8	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	28	R135650
3050 EXTRACTABLE METALS												
Aluminum	4380	mg/kg-dry	D	10	10	SW6010B	06/25/18 22:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	110	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Arsenic	4.8	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Barium	83	mg/kg-dry		5	1	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Boron	1	mg/kg-dry	J	5	1	SW6010B	06/25/18 22:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	110	41895
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Chromium	9	mg/kg-dry		5	0.7	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Copper	25	mg/kg-dry		5	3	SW6010B	06/25/18 22:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	110	41895
Iron	10800	mg/kg-dry	D	70	70	SW6010B	06/25/18 22:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	110	41895
Lead	12	mg/kg-dry		5	0.4	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Manganese	447	mg/kg-dry		5	1	SW6010B	06/25/18 22:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	110	41895
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Nickel	3.8	mg/kg-dry	J	5	0.5	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Vanadium	30	mg/kg-dry		1	0.5	SW6020	06/20/18 23:44 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	197	41895
Zinc	75	mg/kg-dry		5	4	SW6010B	06/25/18 22:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	110	41895
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0041	SW7471B	06/20/18 18:10 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	72	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-035
Collection Date: 06/07/18 10:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	17.6	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	44	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.7	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	29	R135650
3050 EXTRACTABLE METALS												
Aluminum	4770	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:26 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	146	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Arsenic	3.5	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Barium	70	mg/kg-dry		5	1	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Boron	1	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:26 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	146	41896
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Chromium	8	mg/kg-dry		5	0.7	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Copper	19	mg/kg-dry		5	3	SW6010B	06/26/18 00:26 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	146	41896
Iron	6150	mg/kg-dry	D	60	60	SW6010B	06/26/18 00:26 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	146	41896
Lead	6	mg/kg-dry		5	0.4	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Manganese	517	mg/kg-dry		5	1	SW6010B	06/26/18 00:26 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	146	41896
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Nickel	5	mg/kg-dry		5	0.4	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Vanadium	12	mg/kg-dry		1	0.4	SW6020	06/21/18 00:50 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	231	41896
Zinc	63	mg/kg-dry		5	4	SW6010B	06/26/18 00:26 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	146	41896
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0040	SW7471B	06/20/18 19:06 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	100	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-036
Collection Date: 06/07/18 09:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	59.9	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	46	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.1	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	30	R135650
3050 EXTRACTABLE METALS												
Aluminum	27600	mg/kg-dry	D	20	20	SW6010B	06/25/18 20:38 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	85	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Arsenic	39	mg/kg-dry		5	0.5	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Barium	358	mg/kg-dry		5	2	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Beryllium	1.2	mg/kg-dry	J	5	0.7	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Boron	11	mg/kg-dry		5	2	SW6010B	06/25/18 20:38 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	85	41894
Cadmium	6.5	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Chromium	61	mg/kg-dry		5	1	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Cobalt	13	mg/kg-dry		5	2	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Copper	348	mg/kg-dry		7	7	SW6010B	06/25/18 20:38 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	85	41894
Iron	25200	mg/kg-dry	D	100	100	SW6010B	06/25/18 20:38 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	85	41894
Lead	183	mg/kg-dry		5	0.9	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Manganese	1690	mg/kg-dry		5	2	SW6010B	06/25/18 20:38 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	85	41894
Molybdenum	4.2	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Nickel	32	mg/kg-dry		5	0.9	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Selenium	1.4	mg/kg-dry	J	5	0.8	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Silver	2.4	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Uranium	10	mg/kg-dry		5	0.2	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Vanadium	58	mg/kg-dry		1	0.9	SW6020	06/20/18 22:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	164	41894
Zinc	1170	mg/kg-dry		7	7	SW6010B	06/25/18 20:38 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	85	41894
METALS, TOTAL												
Mercury	0.47	mg/kg-dry		0.10	0.0078	SW7471B	06/20/18 17:12 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	45	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-037
Collection Date: 06/07/18 09:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.8	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	48	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	24.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	31	R135650
3050 EXTRACTABLE METALS												
Aluminum	4960	mg/kg-dry	D	10	10	SW6010B	06/25/18 22:14 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	111	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Arsenic	4.1	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Barium	110	mg/kg-dry		5	1	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Boron	1	mg/kg-dry	J	5	1	SW6010B	06/25/18 22:14 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	111	41895
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Chromium	12	mg/kg-dry		5	0.8	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Copper	22	mg/kg-dry		5	3	SW6010B	06/25/18 22:14 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	111	41895
Iron	12700	mg/kg-dry	D	70	70	SW6010B	06/25/18 22:14 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	111	41895
Lead	17	mg/kg-dry		5	0.5	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Manganese	286	mg/kg-dry		5	1	SW6010B	06/25/18 22:14 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	111	41895
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Nickel	5.0	mg/kg-dry	J	5	0.5	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Vanadium	33	mg/kg-dry		1	0.5	SW6020	06/20/18 23:46 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	198	41895
Zinc	128	mg/kg-dry		5	4	SW6010B	06/25/18 22:14 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	111	41895
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0042	SW7471B	06/20/18 18:12 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	73	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-038
Collection Date: 06/07/18 09:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.4	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	50	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	20.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	32	R135650
3050 EXTRACTABLE METALS												
Aluminum	5540	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:30 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	147	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Arsenic	7	mg/kg-dry		5	0.2	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Barium	180	mg/kg-dry		5	1	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 00:30 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	147	41896
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Chromium	12	mg/kg-dry		5	0.7	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Copper	62	mg/kg-dry		5	3	SW6010B	06/26/18 00:30 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	147	41896
Iron	8150	mg/kg-dry	D	60	60	SW6010B	06/26/18 00:30 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	147	41896
Lead	29	mg/kg-dry		5	0.4	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Manganese	473	mg/kg-dry		5	1	SW6010B	06/26/18 00:30 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	147	41896
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Nickel	8	mg/kg-dry		5	0.4	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Vanadium	15	mg/kg-dry		1	0.4	SW6020	06/21/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	232	41896
Zinc	70	mg/kg-dry		5	4	SW6010B	06/26/18 00:30 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	147	41896
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0038	SW7471B	06/20/18 19:08 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	101	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-039
Collection Date: 06/06/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	60.5	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	52	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	33	R135650
3050 EXTRACTABLE METALS												
Aluminum	28200	mg/kg-dry	D	20	20	SW6010B	06/25/18 20:42 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	86	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Arsenic	40	mg/kg-dry		5	0.5	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Barium	412	mg/kg-dry		5	2	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Beryllium	1.3	mg/kg-dry	J	5	0.7	SW6020	06/26/18 00:40 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	28	41894
Boron	12	mg/kg-dry		5	2	SW6010B	06/25/18 20:42 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	86	41894
Cadmium	11.0	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Chromium	72	mg/kg-dry		5	2	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Cobalt	13	mg/kg-dry		5	2	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Copper	465	mg/kg-dry		7	7	SW6010B	06/25/18 20:42 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	86	41894
Iron	25900	mg/kg-dry	D	100	100	SW6010B	06/25/18 20:42 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	86	41894
Lead	178	mg/kg-dry		5	0.9	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Manganese	2150	mg/kg-dry		5	2	SW6010B	06/25/18 20:42 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	86	41894
Molybdenum	4.5	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Nickel	37	mg/kg-dry		5	0.9	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Selenium	1.0	mg/kg-dry	J	5	0.9	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Silver	2.5	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Uranium	4.1	mg/kg-dry	J	5	0.2	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Vanadium	54	mg/kg-dry		1	0.9	SW6020	06/20/18 22:53 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	171	41894
Zinc	1910	mg/kg-dry		8	8	SW6010B	06/25/18 20:42 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	86	41894
METALS, TOTAL												
Mercury	0.47	mg/kg-dry		0.10	0.010	SW7471B	06/20/18 17:14 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	46	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-040
Collection Date: 06/06/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.9	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	54	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	34.1	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	34	R135650
3050 EXTRACTABLE METALS												
Aluminum	5130	mg/kg-dry	D	10	10	SW6010B	06/25/18 22:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	112	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Arsenic	5	mg/kg-dry		5	0.2	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Barium	131	mg/kg-dry		5	1	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Boron	ND	mg/kg-dry		5	1	SW6010B	06/25/18 22:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	112	41895
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Chromium	10	mg/kg-dry		5	0.7	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Copper	19	mg/kg-dry		5	3	SW6010B	06/25/18 22:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	112	41895
Iron	8270	mg/kg-dry	D	70	70	SW6010B	06/25/18 22:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	112	41895
Lead	12	mg/kg-dry		5	0.5	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Manganese	604	mg/kg-dry		5	1	SW6010B	06/25/18 22:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	112	41895
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Nickel	5	mg/kg-dry		5	0.5	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Vanadium	18	mg/kg-dry		1	0.5	SW6020	06/20/18 23:59 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	205	41895
Zinc	112	mg/kg-dry		5	4	SW6010B	06/25/18 22:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	112	41895
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.0042	SW7471B	06/20/18 18:14 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	74	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-041
Collection Date: 06/06/18 16:15
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.3	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	56	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	18.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	35	R135650
3050 EXTRACTABLE METALS												
Aluminum	5760	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:34 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	148	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Arsenic	7	mg/kg-dry		5	0.2	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Barium	200	mg/kg-dry		5	1	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 00:34 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	148	41896
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Chromium	16	mg/kg-dry		5	0.8	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Copper	125	mg/kg-dry		5	3	SW6010B	06/26/18 00:34 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	148	41896
Iron	8360	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:34 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	148	41896
Lead	13	mg/kg-dry		5	0.5	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Manganese	559	mg/kg-dry		5	1	SW6010B	06/26/18 00:34 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	148	41896
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Nickel	8	mg/kg-dry		5	0.5	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Vanadium	16	mg/kg-dry		1	0.5	SW6020	06/21/18 01:05 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	239	41896
Zinc	108	mg/kg-dry		5	4	SW6010B	06/26/18 00:34 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	148	41896
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0042	SW7471B	06/20/18 19:10 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	102	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-042
Collection Date: 06/06/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	67.6	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	58	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	8.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	36	R135650
3050 EXTRACTABLE METALS												
Aluminum	26600	mg/kg-dry	D	30	30	SW6010B	06/25/18 20:45 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	87	41894
Antimony	ND	mg/kg-dry		5	3	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Arsenic	49	mg/kg-dry		5	0.6	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Barium	423	mg/kg-dry		5	3	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Beryllium	1.2	mg/kg-dry	J	5	0.9	SW6020	06/26/18 00:42 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	29	41894
Boron	13	mg/kg-dry		5	3	SW6010B	06/25/18 20:45 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	87	41894
Cadmium	9.7	mg/kg-dry		0.3	0.3	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Chromium	49	mg/kg-dry		5	2	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Cobalt	14	mg/kg-dry		5	3	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Copper	664	mg/kg-dry		9	9	SW6010B	06/25/18 20:45 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	87	41894
Iron	28700	mg/kg-dry	D	200	200	SW6010B	06/25/18 20:45 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	87	41894
Lead	176	mg/kg-dry		5	1	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Manganese	2410	mg/kg-dry		5	3	SW6010B	06/25/18 20:45 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	87	41894
Molybdenum	6	mg/kg-dry		5	0.5	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Nickel	25	mg/kg-dry		5	1	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Selenium	1	mg/kg-dry	J	5	1	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Silver	2.7	mg/kg-dry	J	5	0.5	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Uranium	4.3	mg/kg-dry	J	5	0.3	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Vanadium	62	mg/kg-dry		1	1	SW6020	06/20/18 22:55 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	172	41894
Zinc	1960	mg/kg-dry		9	9	SW6010B	06/25/18 20:45 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	87	41894
METALS, TOTAL												
Mercury	0.78	mg/kg-dry		0.10	0.0099	SW7471B	06/20/18 17:16 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	47	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-043
Collection Date: 06/06/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	25.3	wt%		0.2	0.02	D2974	06/28/18 08:18 / ber			RYING OVEN 2_180626B	60	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	44.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	37	R135650
3050 EXTRACTABLE METALS												
Aluminum	6390	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	123	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Arsenic	9	mg/kg-dry		5	0.2	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Barium	159	mg/kg-dry		5	1	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Boron	ND	mg/kg-dry		5	1	SW6010B	06/25/18 23:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	123	41895
Cadmium	1.4	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Chromium	12	mg/kg-dry		5	0.8	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Copper	65	mg/kg-dry		5	4	SW6010B	06/25/18 23:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	123	41895
Iron	12400	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	123	41895
Lead	21	mg/kg-dry		5	0.5	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Manganese	447	mg/kg-dry		5	1	SW6010B	06/25/18 23:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	123	41895
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Nickel	6	mg/kg-dry		5	0.5	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Uranium	1.7	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Vanadium	32	mg/kg-dry		1	0.5	SW6020	06/21/18 00:01 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	206	41895
Zinc	282	mg/kg-dry		5	4	SW6010B	06/25/18 23:00 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	123	41895
METALS, TOTAL												
Mercury	0.06	mg/kg-dry	J	0.10	0.0045	SW7471B	06/20/18 18:16 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	75	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-044
Collection Date: 06/06/18 14:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.7	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	62	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	19.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	38	R135650
3050 EXTRACTABLE METALS												
Aluminum	4930	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:37 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	149	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Arsenic	7	mg/kg-dry		5	0.2	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Barium	153	mg/kg-dry		5	1	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 00:37 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	149	41896
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Chromium	11	mg/kg-dry		5	0.8	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Copper	30	mg/kg-dry		5	3	SW6010B	06/26/18 00:37 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	149	41896
Iron	8950	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:37 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	149	41896
Lead	18	mg/kg-dry		5	0.5	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Manganese	550	mg/kg-dry		5	1	SW6010B	06/26/18 00:37 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	149	41896
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Nickel	6	mg/kg-dry		5	0.5	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Silver	0.2	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Vanadium	15	mg/kg-dry		1	0.5	SW6020	06/21/18 01:07 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	240	41896
Zinc	168	mg/kg-dry		5	4	SW6010B	06/26/18 00:37 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	149	41896
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0039	SW7471B	06/20/18 19:12 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	103	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-045
Collection Date: 06/06/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.5	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	64	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	6.2	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	39	R135650
3050 EXTRACTABLE METALS												
Aluminum	37800	mg/kg-dry	D	20	20	SW6010B	06/25/18 20:49 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	88	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Arsenic	38	mg/kg-dry		5	0.4	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Barium	586	mg/kg-dry		5	2	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Beryllium	1.6	mg/kg-dry	J	5	0.7	SW6020	06/26/18 00:44 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	30	41894
Boron	14	mg/kg-dry		5	2	SW6010B	06/25/18 20:49 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	88	41894
Cadmium	5.9	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Chromium	38	mg/kg-dry		5	1	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Cobalt	10	mg/kg-dry		5	2	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Copper	369	mg/kg-dry		6	6	SW6010B	06/25/18 20:49 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	88	41894
Iron	30200	mg/kg-dry	D	100	100	SW6010B	06/25/18 20:49 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	88	41894
Lead	136	mg/kg-dry		5	0.8	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Manganese	971	mg/kg-dry		5	2	SW6010B	06/25/18 20:49 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	88	41894
Molybdenum	1.8	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Nickel	21	mg/kg-dry		5	0.8	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Selenium	ND	mg/kg-dry		5	0.8	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Silver	1.8	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Uranium	2.9	mg/kg-dry	J	5	0.2	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Vanadium	56	mg/kg-dry		1	0.8	SW6020	06/20/18 22:57 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	173	41894
Zinc	928	mg/kg-dry		7	7	SW6010B	06/25/18 20:49 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	88	41894
METALS, TOTAL												
Mercury	0.48	mg/kg-dry		0.10	0.0072	SW7471B	06/20/18 17:18 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	48	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-046
Collection Date: 06/06/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.9	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	66	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	51.8	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	40	R135650
3050 EXTRACTABLE METALS												
Aluminum	8210	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:04 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	124	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Arsenic	45	mg/kg-dry		5	0.2	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Barium	174	mg/kg-dry		5	1	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Beryllium	0.4	mg/kg-dry	J	5	0.4	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/25/18 23:04 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	124	41895
Cadmium	1.9	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Chromium	10	mg/kg-dry		5	0.8	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Copper	206	mg/kg-dry		5	3	SW6010B	06/25/18 23:04 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	124	41895
Iron	14800	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:04 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	124	41895
Lead	43	mg/kg-dry		5	0.5	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Manganese	418	mg/kg-dry		5	1	SW6010B	06/25/18 23:04 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	124	41895
Molybdenum	0.8	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Nickel	4.9	mg/kg-dry	J	5	0.5	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Silver	1.2	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Uranium	1.8	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Vanadium	31	mg/kg-dry		1	0.5	SW6020	06/21/18 00:03 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	207	41895
Zinc	505	mg/kg-dry		5	4	SW6010B	06/25/18 23:04 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	124	41895
METALS, TOTAL												
Mercury	0.22	mg/kg-dry		0.10	0.0039	SW7471B	06/20/18 18:18 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	76	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-047
Collection Date: 06/06/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	27.5	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	68	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	16.1	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	41	R135650
3050 EXTRACTABLE METALS												
Aluminum	12300	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:41 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	150	41896
Antimony	2	mg/kg-dry	J	5	1	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Arsenic	25	mg/kg-dry		5	0.3	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Barium	284	mg/kg-dry		5	1	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Beryllium	0.5	mg/kg-dry	J	5	0.4	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Boron	3	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:41 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	150	41896
Cadmium	0.7	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Chromium	12	mg/kg-dry		5	0.8	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Copper	103	mg/kg-dry		5	4	SW6010B	06/26/18 00:41 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	150	41896
Iron	13200	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:41 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	150	41896
Lead	56	mg/kg-dry		5	0.5	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Manganese	357	mg/kg-dry		5	1	SW6010B	06/26/18 00:41 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	150	41896
Molybdenum	0.6	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Nickel	7	mg/kg-dry		5	0.5	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Silver	0.9	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Uranium	1.8	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Vanadium	24	mg/kg-dry		1	0.5	SW6020	06/21/18 01:09 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	241	41896
Zinc	203	mg/kg-dry		5	4	SW6010B	06/26/18 00:41 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	150	41896
METALS, TOTAL												
Mercury	0.20	mg/kg-dry		0.10	0.0043	SW7471B	06/20/18 19:14 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	104	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-048
Collection Date: 06/06/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	52.6	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	70	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.7	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	42	R135650
3050 EXTRACTABLE METALS												
Aluminum	35900	mg/kg-dry	D	20	20	SW6010B	06/25/18 21:00 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	91	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Arsenic	35	mg/kg-dry		5	0.4	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Barium	559	mg/kg-dry		5	2	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Beryllium	1.6	mg/kg-dry	J	5	0.6	SW6020	06/26/18 00:46 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	31	41894
Boron	13	mg/kg-dry		5	2	SW6010B	06/25/18 21:00 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	91	41894
Cadmium	6.0	mg/kg-dry		0.2	0.2	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Chromium	31	mg/kg-dry		5	1	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Cobalt	9	mg/kg-dry		5	2	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Copper	332	mg/kg-dry		6	6	SW6010B	06/25/18 21:00 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	91	41894
Iron	28900	mg/kg-dry	D	100	100	SW6010B	06/25/18 21:00 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	91	41894
Lead	133	mg/kg-dry		5	0.8	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Manganese	918	mg/kg-dry		5	2	SW6010B	06/25/18 21:00 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	91	41894
Molybdenum	1.7	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Nickel	17	mg/kg-dry		5	0.8	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Selenium	ND	mg/kg-dry		5	0.7	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Silver	1.8	mg/kg-dry	J	5	0.4	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Uranium	2.7	mg/kg-dry	J	5	0.2	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Vanadium	54	mg/kg-dry		1	0.8	SW6020	06/20/18 22:59 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	174	41894
Zinc	826	mg/kg-dry		6	6	SW6010B	06/25/18 21:00 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	91	41894
METALS, TOTAL												
Mercury	0.36	mg/kg-dry		0.10	0.0060	SW7471B	06/20/18 17:20 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	49	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-049
Collection Date: 06/06/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.3	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	72	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	38.2	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	43	R135650
3050 EXTRACTABLE METALS												
Aluminum	8930	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	125	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Arsenic	51	mg/kg-dry		5	0.2	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Barium	210	mg/kg-dry		5	1	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/25/18 23:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	125	41895
Cadmium	1.5	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Chromium	13	mg/kg-dry		5	0.8	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Cobalt	5	mg/kg-dry	J	5	1	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Copper	220	mg/kg-dry		5	3	SW6010B	06/25/18 23:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	125	41895
Iron	19600	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	125	41895
Lead	71	mg/kg-dry		5	0.5	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Manganese	412	mg/kg-dry		5	1	SW6010B	06/25/18 23:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	125	41895
Molybdenum	1.7	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Nickel	6	mg/kg-dry		5	0.5	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Silver	1.4	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Uranium	2.1	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Vanadium	44	mg/kg-dry		1	0.5	SW6020	06/21/18 00:05 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	208	41895
Zinc	424	mg/kg-dry		5	4	SW6010B	06/25/18 23:07 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	125	41895
METALS, TOTAL												
Mercury	0.25	mg/kg-dry		0.10	0.0043	SW7471B	06/20/18 18:20 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	77	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-050
Collection Date: 06/06/18 13:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	27.2	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	74	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	18.2	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	44	R135650
3050 EXTRACTABLE METALS												
Aluminum	14100	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:45 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	151	41896
Antimony	1	mg/kg-dry	J	5	1	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Arsenic	105	mg/kg-dry		5	0.3	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Barium	356	mg/kg-dry		5	1	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Beryllium	0.6	mg/kg-dry	J	5	0.4	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Boron	3	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:45 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	151	41896
Cadmium	2.6	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Chromium	10	mg/kg-dry		5	0.8	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Cobalt	4	mg/kg-dry	J	5	1	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Copper	335	mg/kg-dry		5	4	SW6010B	06/26/18 00:45 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	151	41896
Iron	14000	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:45 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	151	41896
Lead	35	mg/kg-dry		5	0.5	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Manganese	442	mg/kg-dry		5	1	SW6010B	06/26/18 00:45 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	151	41896
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Nickel	6	mg/kg-dry		5	0.5	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Silver	2.3	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Uranium	2.1	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Vanadium	20	mg/kg-dry		1	0.5	SW6020	06/21/18 01:11 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	242	41896
Zinc	518	mg/kg-dry		5	4	SW6010B	06/26/18 00:45 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	151	41896
METALS, TOTAL												
Mercury	0.22	mg/kg-dry		0.10	0.0045	SW7471B	06/20/18 19:16 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	105	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-051
Collection Date: 06/06/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	61.0	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	76	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	9.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	45	R135650
3050 EXTRACTABLE METALS												
Aluminum	26100	mg/kg-dry	D	20	20	SW6010B	06/25/18 21:04 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	92	41894
Antimony	5	mg/kg-dry	J	5	2	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Arsenic	309	mg/kg-dry		5	0.5	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Barium	402	mg/kg-dry		5	2	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Beryllium	1.3	mg/kg-dry	J	5	0.7	SW6020	06/26/18 00:48 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	32	41894
Boron	10	mg/kg-dry		5	2	SW6010B	06/25/18 21:04 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	92	41894
Cadmium	17.2	mg/kg-dry		0.2	0.2	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Chromium	50	mg/kg-dry		5	2	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Cobalt	15	mg/kg-dry		5	2	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Copper	3240	mg/kg-dry		7	7	SW6010B	06/25/18 21:04 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	92	41894
Iron	35100	mg/kg-dry	D	100	100	SW6010B	06/25/18 21:04 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	92	41894
Lead	874	mg/kg-dry		5	0.9	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Manganese	823	mg/kg-dry		5	2	SW6010B	06/25/18 21:04 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	92	41894
Molybdenum	14	mg/kg-dry		5	0.4	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Nickel	28	mg/kg-dry		5	0.9	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Selenium	2.5	mg/kg-dry	J	5	0.9	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Silver	14	mg/kg-dry		5	0.4	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Uranium	15	mg/kg-dry		5	0.2	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Vanadium	76	mg/kg-dry		1	0.9	SW6020	06/20/18 23:01 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	175	41894
Zinc	3390	mg/kg-dry		8	8	SW6010B	06/25/18 21:04 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	92	41894
METALS, TOTAL												
Mercury	6.3	mg/kg-dry	D	1.1	0.38	SW7471B	06/20/18 20:02 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	119	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-052
Collection Date: 06/06/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.8	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	78	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	61.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	46	R135650
3050 EXTRACTABLE METALS												
Aluminum	6460	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	126	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Arsenic	60	mg/kg-dry		5	0.2	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Barium	98	mg/kg-dry		5	1	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Beryllium	0.4	mg/kg-dry	J	5	0.4	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Boron	ND	mg/kg-dry		5	1	SW6010B	06/25/18 23:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	126	41895
Cadmium	1.2	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Chromium	17	mg/kg-dry		5	0.8	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Cobalt	5	mg/kg-dry	J	5	1	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Copper	179	mg/kg-dry		5	3	SW6010B	06/25/18 23:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	126	41895
Iron	25700	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	126	41895
Lead	48	mg/kg-dry		5	0.5	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Manganese	218	mg/kg-dry		5	1	SW6010B	06/25/18 23:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	126	41895
Molybdenum	1.1	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Nickel	7	mg/kg-dry		5	0.5	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Silver	1.0	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Uranium	1.8	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Vanadium	73	mg/kg-dry		1	0.5	SW6020	06/21/18 00:07 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	209	41895
Zinc	354	mg/kg-dry		5	4	SW6010B	06/25/18 23:11 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	126	41895
METALS, TOTAL												
Mercury	0.20	mg/kg-dry		0.10	0.0041	SW7471B	06/20/18 18:22 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	78	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-053
Collection Date: 06/06/18 12:30
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.4	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	80	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	14.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	47	R135650
3050 EXTRACTABLE METALS												
Aluminum	7020	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	152	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Arsenic	27	mg/kg-dry		5	0.2	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Barium	87	mg/kg-dry		5	1	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	152	41896
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Chromium	11	mg/kg-dry		5	0.8	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Copper	331	mg/kg-dry		5	3	SW6010B	06/26/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	152	41896
Iron	11500	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	152	41896
Lead	30	mg/kg-dry		5	0.5	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Manganese	165	mg/kg-dry		5	1	SW6010B	06/26/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	152	41896
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Nickel	7	mg/kg-dry		5	0.5	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Silver	2.1	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Vanadium	20	mg/kg-dry		1	0.5	SW6020	06/21/18 01:13 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	243	41896
Zinc	176	mg/kg-dry		5	4	SW6010B	06/26/18 00:48 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	152	41896
METALS, TOTAL												
Mercury	0.09	mg/kg-dry	J	0.10	0.0043	SW7471B	06/20/18 19:18 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	106	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-054
Collection Date: 06/06/18 11:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	49.0	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	82	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	7.6	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	48	R135650
3050 EXTRACTABLE METALS												
Aluminum	31000	mg/kg-dry	D	20	20	SW6010B	06/25/18 21:22 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	97	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Arsenic	29	mg/kg-dry		5	0.4	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Barium	386	mg/kg-dry		5	2	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Beryllium	1.5	mg/kg-dry	J	5	0.6	SW6020	06/26/18 00:50 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	33	41894
Boron	12	mg/kg-dry		5	2	SW6010B	06/25/18 21:22 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	97	41894
Cadmium	3.5	mg/kg-dry		0.2	0.2	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Chromium	33	mg/kg-dry		5	1	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Cobalt	10	mg/kg-dry		5	2	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Copper	243	mg/kg-dry		5	5	SW6010B	06/25/18 21:22 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	97	41894
Iron	30500	mg/kg-dry	D	100	100	SW6010B	06/25/18 21:22 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	97	41894
Lead	95	mg/kg-dry		5	0.7	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Manganese	1380	mg/kg-dry		5	2	SW6010B	06/25/18 21:22 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	97	41894
Molybdenum	1.0	mg/kg-dry	J	5	0.3	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Nickel	18	mg/kg-dry		5	0.7	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Selenium	ND	mg/kg-dry		5	0.7	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Silver	1.4	mg/kg-dry	J	5	0.3	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Uranium	2.4	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Vanadium	61	mg/kg-dry		1	0.7	SW6020	06/20/18 23:18 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	184	41894
Zinc	524	mg/kg-dry		6	6	SW6010B	06/25/18 21:22 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	97	41894
METALS, TOTAL												
Mercury	0.44	mg/kg-dry		0.10	0.0059	SW7471B	06/20/18 17:25 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	51	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-055
Collection Date: 06/06/18 11:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.9	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	84	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	88.3	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	49	R135650
3050 EXTRACTABLE METALS												
Aluminum	7670	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:15 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	127	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Arsenic	17	mg/kg-dry		5	0.2	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Barium	161	mg/kg-dry		5	1	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/25/18 23:15 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	127	41895
Cadmium	0.8	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Chromium	16	mg/kg-dry		5	0.7	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Cobalt	5	mg/kg-dry	J	5	1	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Copper	82	mg/kg-dry		5	3	SW6010B	06/25/18 23:15 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	127	41895
Iron	23300	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:15 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	127	41895
Lead	37	mg/kg-dry		5	0.4	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Manganese	468	mg/kg-dry		5	1	SW6010B	06/25/18 23:15 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	127	41895
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Nickel	6	mg/kg-dry		5	0.5	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Silver	0.6	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Uranium	4.0	mg/kg-dry	J	5	0.1	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Vanadium	65	mg/kg-dry		1	0.4	SW6020	06/21/18 00:09 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	210	41895
Zinc	264	mg/kg-dry		5	4	SW6010B	06/25/18 23:15 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	127	41895
METALS, TOTAL												
Mercury	0.17	mg/kg-dry		0.10	0.0041	SW7471B	06/20/18 18:24 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	79	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-056
Collection Date: 06/06/18 11:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	25.6	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	88	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	2.5	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	50	R135650
3050 EXTRACTABLE METALS												
Aluminum	7420	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	153	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Arsenic	10	mg/kg-dry		5	0.3	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Barium	176	mg/kg-dry		5	1	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	153	41896
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Chromium	8	mg/kg-dry		5	0.8	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Cobalt	5	mg/kg-dry	J	5	1	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Copper	73	mg/kg-dry		5	4	SW6010B	06/26/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	153	41896
Iron	10800	mg/kg-dry	D	70	70	SW6010B	06/26/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	153	41896
Lead	17	mg/kg-dry		5	0.5	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Manganese	616	mg/kg-dry		5	1	SW6010B	06/26/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	153	41896
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Nickel	6	mg/kg-dry		5	0.5	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Vanadium	23	mg/kg-dry		1	0.5	SW6020	06/21/18 01:15 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	244	41896
Zinc	165	mg/kg-dry		5	4	SW6010B	06/26/18 00:52 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	153	41896
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0044	SW7471B	06/20/18 19:20 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	107	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-057
Collection Date: 06/06/18 09:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	52.5	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	90	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	10.7	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	51	R135650
3050 EXTRACTABLE METALS												
Aluminum	36300	mg/kg-dry	D	20	20	SW6010B	06/25/18 21:26 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	98	41894
Antimony	ND	mg/kg-dry		5	2	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Arsenic	36	mg/kg-dry		5	0.4	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Barium	327	mg/kg-dry		5	2	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Beryllium	1.3	mg/kg-dry	J	5	0.6	SW6020	06/26/18 00:52 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	34	41894
Boron	11	mg/kg-dry		5	2	SW6010B	06/25/18 21:26 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	98	41894
Cadmium	4.5	mg/kg-dry		0.2	0.2	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Chromium	37	mg/kg-dry		5	1	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Cobalt	14	mg/kg-dry		5	2	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Copper	313	mg/kg-dry		6	6	SW6010B	06/25/18 21:26 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	98	41894
Iron	38300	mg/kg-dry	D	100	100	SW6010B	06/25/18 21:26 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	98	41894
Lead	110	mg/kg-dry		5	0.7	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Manganese	1790	mg/kg-dry		5	2	SW6010B	06/25/18 21:26 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	98	41894
Molybdenum	1.7	mg/kg-dry	J	5	0.3	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Nickel	20	mg/kg-dry		5	0.8	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Selenium	ND	mg/kg-dry		5	0.7	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Silver	1.7	mg/kg-dry	J	5	0.3	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Uranium	3.3	mg/kg-dry	J	5	0.2	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Vanadium	87	mg/kg-dry		1	0.7	SW6020	06/20/18 23:20 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	185	41894
Zinc	776	mg/kg-dry		6	6	SW6010B	06/25/18 21:26 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	98	41894
METALS, TOTAL												
Mercury	0.51	mg/kg-dry		0.10	0.0064	SW7471B	06/20/18 17:27 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	52	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-058
Collection Date: 06/06/18 09:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.9	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	92	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	71.4	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	52	R135650
3050 EXTRACTABLE METALS												
Aluminum	6560	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	128	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Arsenic	20	mg/kg-dry		5	0.2	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Barium	122	mg/kg-dry		5	1	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Boron	ND	mg/kg-dry		5	1	SW6010B	06/25/18 23:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	128	41895
Cadmium	1.1	mg/kg-dry		0.2	0.1	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Chromium	26	mg/kg-dry		5	0.8	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Cobalt	6	mg/kg-dry		5	1	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Copper	90	mg/kg-dry		5	4	SW6010B	06/25/18 23:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	128	41895
Iron	36700	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	128	41895
Lead	33	mg/kg-dry		5	0.5	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Manganese	473	mg/kg-dry		5	1	SW6010B	06/25/18 23:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	128	41895
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Nickel	8	mg/kg-dry		5	0.5	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Selenium	ND	mg/kg-dry		5	0.5	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Silver	0.4	mg/kg-dry	J	5	0.2	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Uranium	7	mg/kg-dry		5	0.1	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Vanadium	115	mg/kg-dry		1	0.5	SW6020	06/21/18 00:11 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180620B	211	41895
Zinc	307	mg/kg-dry		5	4	SW6010B	06/25/18 23:18 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	128	41895
METALS, TOTAL												
Mercury	0.12	mg/kg-dry		0.10	0.0041	SW7471B	06/20/18 18:26 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	80	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-059
Collection Date: 06/06/18 09:45
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.8	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	94	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	6.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	53	R135650
3050 EXTRACTABLE METALS												
Aluminum	3340	mg/kg-dry	D	10	10	SW6010B	06/26/18 00:56 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	154	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Arsenic	4.4	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Barium	55	mg/kg-dry		5	1	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Boron	2	mg/kg-dry	J	5	1	SW6010B	06/26/18 00:56 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	154	41896
Cadmium	0.2	mg/kg-dry	J	0.2	0.1	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Chromium	6	mg/kg-dry		5	0.7	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Cobalt	2	mg/kg-dry	J	5	1	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Copper	30	mg/kg-dry		5	3	SW6010B	06/26/18 00:56 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	154	41896
Iron	6060	mg/kg-dry	D	60	60	SW6010B	06/26/18 00:56 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	154	41896
Lead	7	mg/kg-dry		5	0.4	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Manganese	276	mg/kg-dry		5	1	SW6010B	06/26/18 00:56 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	154	41896
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Nickel	3.5	mg/kg-dry	J	5	0.4	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Vanadium	14	mg/kg-dry		1	0.4	SW6020	06/21/18 01:17 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	245	41896
Zinc	49	mg/kg-dry		5	4	SW6010B	06/26/18 00:56 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	154	41896
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0040	SW7471B	06/20/18 19:22 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	108	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-060
Collection Date: 06/06/18 09:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	50.7	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	96	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Passed	0.3	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	54	R135650
3050 EXTRACTABLE METALS												
Aluminum	26000	mg/kg-dry	D	40	40	SW6010B	06/25/18 21:30 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	99	41894
Antimony	ND	mg/kg-dry		5	3	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Arsenic	53	mg/kg-dry		5	0.7	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Barium	368	mg/kg-dry		5	4	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Beryllium	1	mg/kg-dry	J	5	1	SW6020	06/26/18 00:54 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180625B	35	41894
Boron	10	mg/kg-dry		5	4	SW6010B	06/25/18 21:30 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	99	41894
Cadmium	4.8	mg/kg-dry		0.3	0.3	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Chromium	80	mg/kg-dry		5	2	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Cobalt	12	mg/kg-dry		5	4	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Copper	243	mg/kg-dry		10	10	SW6010B	06/25/18 21:30 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	99	41894
Iron	39800	mg/kg-dry	D	200	200	SW6010B	06/25/18 21:30 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	99	41894
Lead	220	mg/kg-dry		5	1	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Manganese	1210	mg/kg-dry		5	3	SW6010B	06/25/18 21:30 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	99	41894
Molybdenum	2.5	mg/kg-dry	J	5	0.6	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Nickel	40	mg/kg-dry		5	1	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Selenium	ND	mg/kg-dry		5	1	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Silver	4.2	mg/kg-dry	J	5	0.7	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Uranium	7	mg/kg-dry		5	0.4	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Vanadium	87	mg/kg-dry		1	1	SW6020	06/20/18 23:22 / sld	06/17/18 17:38	SW3050 B	ICPMS205-H_180620B	186	41894
Zinc	1330	mg/kg-dry	D	10	10	SW6010B	06/25/18 21:30 / sld	06/17/18 17:38	SW3050 B	ICP2-HE_180625A	99	41894
METALS, TOTAL												
Mercury	0.31	mg/kg-dry		0.10	0.0081	SW7471B	06/20/18 17:29 / dck	06/15/18 17:56	SW7471B	HGCV201-H_180620B	53	41890

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-061
Collection Date: 06/06/18 09:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.4	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			RYING OVEN 2_180626B	98	R135973
SIEVE ANALYSIS												
No. 230 (63 um), Retained	28.0	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	55	R135650
3050 EXTRACTABLE METALS												
Aluminum	3410	mg/kg-dry	D	10	10	SW6010B	06/25/18 23:22 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	129	41895
Antimony	ND	mg/kg-dry		5	1	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Arsenic	11	mg/kg-dry		5	0.2	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Barium	66	mg/kg-dry		5	1	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Boron	ND	mg/kg-dry		5	1	SW6010B	06/25/18 23:22 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	129	41895
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Chromium	15	mg/kg-dry		5	0.7	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Copper	56	mg/kg-dry		5	3	SW6010B	06/25/18 23:22 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	129	41895
Iron	20200	mg/kg-dry	D	70	70	SW6010B	06/25/18 23:22 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	129	41895
Lead	29	mg/kg-dry		5	0.4	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Manganese	373	mg/kg-dry		5	1	SW6010B	06/25/18 23:22 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	129	41895
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Nickel	4.9	mg/kg-dry	J	5	0.5	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Silver	0.3	mg/kg-dry	J	5	0.2	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Uranium	15	mg/kg-dry		5	0.1	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Vanadium	64	mg/kg-dry		1	0.4	SW6020	06/22/18 13:27 / sld	06/17/18 17:39	SW3050 B	ICPMS205-H_180622B	44	41895
Zinc	201	mg/kg-dry		5	4	SW6010B	06/25/18 23:22 / sld	06/17/18 17:39	SW3050 B	ICP2-HE_180625A	129	41895
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.0039	SW7471B	06/20/18 18:28 / dck	06/15/18 17:59	SW7471B	HGCV201-H_180620B	81	41891

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18060191-062
Collection Date: 06/06/18 09:00
DateReceived: 06/08/18
Report Date: 07/06/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	15.4	wt%		0.2	0.02	D2974	06/28/18 09:24 / ber			YING OVEN 2_180626B	100	R135973
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	19.7	wt%-wet		0.1		SSSA 15-2	06/15/18 11:25 / SV			MISC SOILS_180615A	56	R135650
3050 EXTRACTABLE METALS												
Aluminum	3250	mg/kg-dry	D	10	10	SW6010B	06/26/18 01:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	155	41896
Antimony	ND	mg/kg-dry		5	1	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Arsenic	12	mg/kg-dry		5	0.2	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Barium	56	mg/kg-dry		5	1	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	06/26/18 12:08 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180626A	36	41896
Boron	ND	mg/kg-dry		5	1	SW6010B	06/26/18 01:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	155	41896
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Chromium	8	mg/kg-dry		5	0.7	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Cobalt	3	mg/kg-dry	J	5	1	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Copper	97	mg/kg-dry		5	3	SW6010B	06/26/18 01:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	155	41896
Iron	6460	mg/kg-dry	D	60	60	SW6010B	06/26/18 01:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	155	41896
Lead	17	mg/kg-dry		5	0.4	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Manganese	265	mg/kg-dry		5	1	SW6010B	06/26/18 01:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	155	41896
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Nickel	4.6	mg/kg-dry	J	5	0.4	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Selenium	ND	mg/kg-dry		5	0.4	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Silver	ND	mg/kg-dry		5	0.2	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Vanadium	13	mg/kg-dry		1	0.4	SW6020	06/21/18 01:27 / sld	06/17/18 17:41	SW3050 B	ICPMS205-H_180620B	250	41896
Zinc	119	mg/kg-dry		5	4	SW6010B	06/26/18 01:00 / sld	06/17/18 17:41	SW3050 B	ICP2-HE_180625A	155	41896
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0038	SW7471B	06/20/18 19:24 / dck	06/15/18 18:04	SW7471B	HGCV201-H_180620B	109	41892

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 180620sa-hg201

Run ID :Run Order: **HGCV201-H_180620B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/20/18 12:21** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	100	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 25** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **06/20/18 16:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00100	0.50	0.001	0	100	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 16:29** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 17:04** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 180620sa-hg201

Run ID :Run Order: **HGCV201-H_180620B: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 17:04** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 54** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 17:31** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 69** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 18:04** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 82** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 18:30** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 180620sa-hg201

Run ID :Run Order: **HGCV201-H_180620B: 82** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 18:30** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 97** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 19:00** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 110** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 19:26** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 117** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 19:49** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	99	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 180620sa-hg201

Run ID :Run Order: **HGCV201-H_180620B: 117** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **06/20/18 19:49** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41806

Run ID :Run Order: **FIA203-HE_180611C: 11** SampType: **Method Blank** Lab ID: **MB-41806** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:33** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.01									

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A**

Run ID :Run Order: **FIA203-HE_180611C: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-41806** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:34** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	14.5	0.30	14	0	103	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A**

Run ID :Run Order: **FIA203-HE_180611C: 21** SampType: **Sample Matrix Spike** Lab ID: **H18060191-002AMS** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:45** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.923	0.10	1	0	92	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A**

Run ID :Run Order: **FIA203-HE_180611C: 22** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-002AMSD** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:46** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.899	0.10	1	0	90	90	110	0.9232	2.7	20	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A**

Run ID :Run Order: **FIA203-HE_180611C: 28** SampType: **Sample Matrix Spike** Lab ID: **H18060191-009AMS** Method: **A4500 N-C**
Analysis Date: **06/11/18 15:53** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.940	0.10	1	0	94	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41806

Run ID :Run Order: **FIA203-HE_180611C: 28** SampType: **Sample Matrix Spike** Lab ID: **H18060191-009AMS** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:53** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A**

Run ID :Run Order: **FIA203-HE_180611C: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-009AMSD** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:54** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.908	0.10	1	0	**91**	90	110	0.9403	**3.5**	20	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41807

Run ID :Run Order: **FIA203-HE_180611C: 41** SampType: **Method Blank** Lab ID: **MB-41807** Method: **A4500 N-C**
Analysis Date: **06/11/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.01									

Associated samples: **H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **FIA203-HE_180611C: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-41807** Method: **A4500 N-C**
Analysis Date: **06/11/18 16:10** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	13.8	0.30	14	0	98	90	110				

Associated samples: **H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **FIA203-HE_180611C: 45** SampType: **Sample Matrix Spike** Lab ID: **H18060191-012AMS** Method: **A4500 N-C**
Analysis Date: **06/11/18 16:13** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.44	0.10	1	0.576	86	90	110				S

Associated samples: **H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **FIA203-HE_180611C: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-012AMSD** Method: **A4500 N-C**
Analysis Date: **06/11/18 16:15** Units: **mg/L** **Prep Info:** Prep Date: **6/11/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.43	0.10	1	0.576	86	90	110	1.436	0.1	20	S

Associated samples: **H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICP2-HE_180613B: 215** SampType: **Method Blank** Lab ID: **MB-41824** Method: **E200.7**

Analysis Date: **06/14/18 11:02** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.004									
Boron	ND	0.005									
Calcium	ND	0.09									
Iron	ND	0.006									
Magnesium	0.01	0.009									
Potassium	ND	0.06									
Sodium	ND	0.03									

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 216** SampType: **Laboratory Control Sample** Lab ID: **LCS-41824** Method: **E200.7**

Analysis Date: **06/14/18 11:06** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.20	0.030	2.5	0	**88**	85	115				
Boron	0.475	0.050	0.5	0	**95**	85	115				
Calcium	24.0	1.0	25	0	**96**	85	115				
Iron	2.42	0.020	2.5	0	**97**	85	115				
Magnesium	23.1	1.0	25	0.01173	**92**	85	115				
Potassium	27.5	1.0	25	0	**110**	85	115				
Sodium	27.7	1.0	25	0	**111**	85	115				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 218** SampType: **Serial Dilution** Lab ID: **H18060191-001CDIL** Method: **E200.7**

Analysis Date: **06/14/18 11:13** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.185	0.030		0		0	0	0.2067		10	N
Boron	0.0269	0.050		0		0	0	0.02566		10	N
Calcium	29.4	1.0		0		0	0	29.11	**1.0**	10	
Iron	0.917	0.029		0		0	0	0.9194	**0.2**	10	
Magnesium	7.53	1.0		0		0	0	7.145		10	N
Potassium	2.81	1.0		0		0	0	2.881		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICP2-HE_180613B: 218** SampType: **Serial Dilution** Lab ID: **H18060191-001CDIL** Method: **E200.7**

Analysis Date: **06/14/18 11:13** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	12.6	1.0		0		0	0	12.62	0.1	10	

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 222** SampType: **Sample Matrix Spike** Lab ID: **H18060191-001CMS3** Method: **E200.7**

Analysis Date: **06/14/18 11:28** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.030	2.5	0.2067	94	70	130				
Boron	0.500	0.050	0.5	0.02566	95	70	130				
Calcium	52.5	1.0	25	29.11	94	70	130				
Iron	3.34	0.020	2.5	0.9194	97	70	130				
Magnesium	30.2	1.0	25	7.145	92	70	130				
Potassium	29.2	1.0	25	2.881	105	70	130				
Sodium	38.9	1.0	25	12.62	105	70	130				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 223** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-001CMSD3** Method: **E200.7**

Analysis Date: **06/14/18 11:32** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.030	2.5	0.2067	94	70	130	2.546	0.2	20	
Boron	0.502	0.050	0.5	0.02566	95	70	130	0.4996	0.6	20	
Calcium	52.3	1.0	25	29.11	93	70	130	52.52	0.4	20	
Iron	3.35	0.020	2.5	0.9194	97	70	130	3.345	0.3	20	
Magnesium	30.2	1.0	25	7.145	92	70	130	30.17	0.0	20	
Potassium	29.7	1.0	25	2.881	107	70	130	29.21	1.8	20	
Sodium	39.6	1.0	25	12.62	108	70	130	38.93	1.7	20	

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICP2-HE_180613B: 236** SampType: **Serial Dilution** Lab ID: **H18060191-011CDIL** Method: **E200.7**

Analysis Date: **06/14/18 12:21** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.691	0.030		0		0	0	0.643	7.3	10	
Boron	0.0306	0.050		0		0	0	0.03122		10	N
Calcium	29.1	1.0		0		0	0	33.68	15	10	R
Iron	0.839	0.029		0		0	0	0.9594	13	10	R
Magnesium	6.99	1.0		0		0	0	7.653		10	N
Potassium	3.15	1.0		0		0	0	3.825	19	10	R
Sodium	17.3	1.0		0		0	0	19.23	10	10	R

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 238** SampType: **Sample Matrix Spike** Lab ID: **H18060191-011CMS3** Method: **E200.7**

Analysis Date: **06/14/18 12:29** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.14	0.030	2.5	0.643	100	70	130				
Boron	0.509	0.050	0.5	0.03122	96	70	130				
Calcium	57.0	1.0	25	33.68	93	70	130				
Iron	3.46	0.020	2.5	0.9594	100	70	130				
Magnesium	31.1	1.0	25	7.653	94	70	130				
Potassium	31.1	1.0	25	3.825	109	70	130				
Sodium	47.0	1.0	25	19.23	111	70	130				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 239** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-011CMSD3** Method: **E200.7**

Analysis Date: **06/14/18 12:32** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.05	0.030	2.5	0.643	96	70	130	3.141	3.1	20	
Boron	0.491	0.050	0.5	0.03122	92	70	130	0.5088	3.7	20	
Calcium	54.6	1.0	25	33.68	84	70	130	57.03	4.4	20	
Iron	3.31	0.020	2.5	0.9594	94	70	130	3.456	4.4	20	
Magnesium	29.8	1.0	25	7.653	89	70	130	31.11	4.3	20	
Potassium	28.8	1.0	25	3.825	100	70	130	31.06	7.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICP2-HE_180613B: 239** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-011CMSD3** Method: **E200.7**

Analysis Date: **06/14/18 12:32** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	43.5	1.0	25	19.23	**97**	70	130	46.97	**7.7**	20	

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 41824

Run ID :Run Order: **ICPMS205-H_180613A: 24** SampType: **Method Blank** Lab ID: **MB-41824** Method: **E200.8**

Analysis Date: **06/13/18 09:50** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	0.0002	0.0001									
Arsenic	ND	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	ND	0.0001									
Cobalt	ND	6E-05									
Copper	0.0003	0.0002									
Iron	ND	0.004									
Lead	4E-05	4E-05									
Manganese	ND	0.0003									
Molybdenum	2E-05	2E-05									
Nickel	ND	0.0001									
Selenium	ND	5E-05									
Silver	6E-05	9E-06									
Uranium	ND	9E-06									
Vanadium	7E-05	2E-05									
Zinc	ND	0.001									

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180613A: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-41824** Method: **E200.8**

Analysis Date: **06/13/18 09:59** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.44	0.030	2.5	0	**97**	85	115				
Antimony	0.531	0.0010	0.5	0.0001566	**106**	85	115				
Arsenic	0.493	0.0010	0.5	0	**99**	85	115				
Barium	0.498	0.050	0.5	0	**100**	85	115				
Beryllium	0.249	0.0010	0.25	0	**100**	85	115				
Cadmium	0.246	0.0010	0.25	0	**99**	85	115				
Chromium	0.479	0.0050	0.5	0	**96**	85	115				
Cobalt	0.490	0.0050	0.5	0	**98**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICPMS205-H_180613A: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-41824** Method: **E200.8**

Analysis Date: **06/13/18 09:59** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.481	0.0050	0.5	0.0002728	96	85	115				
Iron	2.36	0.020	2.5	0	95	85	115				
Lead	0.495	0.0010	0.5	0.00004095	99	85	115				
Manganese	2.47	0.0010	2.5	0	99	85	115				
Molybdenum	0.492	0.0010	0.5	0.00001953	98	85	115				
Nickel	0.479	0.0050	0.5	0	96	85	115				
Selenium	0.483	0.0010	0.5	0	97	85	115				
Silver	0.0485	0.0010	0.05	0.00005661	97	85	115				
Uranium	0.460	0.00030	0.5	0	92	85	115				
Vanadium	0.477	0.010	0.5	0.00006563	95	85	115				
Zinc	0.485	0.010	0.5	0	97	85	115				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180613A: 30** SampType: **Sample Matrix Spike** Lab ID: **H18060191-001CMS3** Method: **E200.8**

Analysis Date: **06/13/18 10:01** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.72	0.030	2.5	0.2242	100	70	130				
Antimony	0.527	0.0010	0.5	0.0006044	105	70	130				
Arsenic	0.504	0.0010	0.5	0.01188	98	70	130				
Barium	0.526	0.050	0.5	0.03146	99	70	130				
Beryllium	0.242	0.0010	0.25	0	97	70	130				
Cadmium	0.244	0.0010	0.25	0.0001068	98	70	130				
Chromium	0.469	0.0050	0.5	0.0004795	94	70	130				
Cobalt	0.498	0.0050	0.5	0.0001875	100	70	130				
Copper	0.490	0.0050	0.5	0.01517	95	70	130				
Iron	3.28	0.020	2.5	0.9044	95	70	130				
Lead	0.500	0.0010	0.5	0.002115	99	70	130				
Manganese	2.54	0.0010	2.5	0.08386	98	70	130				
Molybdenum	0.492	0.0010	0.5	0.005835	97	70	130				
Nickel	0.474	0.0050	0.5	0.0006286	95	70	130				
Selenium	0.477	0.0010	0.5	0.0001801	95	70	130				
Silver	0.0482	0.0010	0.05	0.0000895	96	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICPMS205-H_180613A: 30** SampType: **Sample Matrix Spike** Lab ID: **H18060191-001CMS3** Method: **E200.8**

Analysis Date: **06/13/18 10:01** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.456	0.00030	0.5	0.002005	91	70	130				
Vanadium	0.474	0.010	0.5	0.002778	94	70	130				
Zinc	0.500	0.010	0.5	0.01997	96	70	130				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180613A: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-001CMSD3** Method: **E200.8**

Analysis Date: **06/13/18 10:03** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.76	0.030	2.5	0.2242	101	70	130	2.725	1.3	20	
Antimony	0.532	0.0010	0.5	0.0006044	106	70	130	0.5266	1.0	20	
Arsenic	0.508	0.0010	0.5	0.01188	99	70	130	0.5041	0.8	20	
Barium	0.532	0.050	0.5	0.03146	100	70	130	0.5256	1.2	20	
Beryllium	0.245	0.0010	0.25	0	98	70	130	0.2423	1.2	20	
Cadmium	0.247	0.0010	0.25	0.0001068	99	70	130	0.2443	1.1	20	
Chromium	0.475	0.0050	0.5	0.0004795	95	70	130	0.4687	1.3	20	
Cobalt	0.496	0.0050	0.5	0.0001875	99	70	130	0.4985	0.5	20	
Copper	0.494	0.0050	0.5	0.01517	96	70	130	0.4898	0.9	20	
Iron	3.30	0.020	2.5	0.9044	96	70	130	3.279	0.5	20	
Lead	0.502	0.0010	0.5	0.002115	100	70	130	0.4995	0.5	20	
Manganese	2.51	0.0010	2.5	0.08386	97	70	130	2.54	1.3	20	
Molybdenum	0.504	0.0010	0.5	0.005835	100	70	130	0.4918	2.5	20	
Nickel	0.478	0.0050	0.5	0.0006286	95	70	130	0.4736	0.9	20	
Selenium	0.486	0.0010	0.5	0.0001801	97	70	130	0.4774	1.9	20	
Silver	0.0483	0.0010	0.05	0.0000895	96	70	130	0.04821	0.1	20	
Uranium	0.468	0.00030	0.5	0.002005	93	70	130	0.4555	2.7	20	
Vanadium	0.480	0.010	0.5	0.002778	95	70	130	0.4735	1.3	20	
Zinc	0.504	0.010	0.5	0.01997	97	70	130	0.5003	0.7	20	

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 41824

Run ID :Run Order: **ICPMS205-H_180613A: 44** SampType: **Sample Matrix Spike** Lab ID: **H18060191-011CMS3** Method: **E200.8**

Analysis Date: **06/13/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.42	0.030	2.5	0.6777	110	70	130				
Antimony	0.537	0.0010	0.5	0.0006714	107	70	130				
Arsenic	0.519	0.0010	0.5	0.01401	101	70	130				
Barium	0.545	0.050	0.5	0.03597	102	70	130				
Beryllium	0.255	0.0010	0.25	0	102	70	130				
Cadmium	0.250	0.0010	0.25	0.0002954	100	70	130				
Chromium	0.484	0.0050	0.5	0.001075	97	70	130				
Cobalt	0.499	0.0050	0.5	0.0003973	100	70	130				
Copper	0.522	0.0050	0.5	0.02856	99	70	130				
Iron	3.33	0.020	2.5	0.955	95	70	130				
Lead	0.509	0.0010	0.5	0.002815	101	70	130				
Manganese	2.70	0.0010	2.5	0.1606	101	70	130				
Molybdenum	0.506	0.0010	0.5	0.00438	100	70	130				
Nickel	0.486	0.0050	0.5	0.0013	97	70	130				
Selenium	0.496	0.0010	0.5	0.0002098	99	70	130				
Silver	0.0489	0.0010	0.05	0.00006842	98	70	130				
Uranium	0.485	0.00030	0.5	0.002418	96	70	130				
Vanadium	0.489	0.010	0.5	0.003444	97	70	130				
Zinc	0.544	0.010	0.5	0.05286	98	70	130				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180613A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-011CMSD3** Method: **E200.8**

Analysis Date: **06/13/18 10:30** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.23	0.030	2.5	0.6777	102	70	130	3.425	5.9	20	
Antimony	0.515	0.0010	0.5	0.0006714	103	70	130	0.5371	4.2	20	
Arsenic	0.494	0.0010	0.5	0.01401	96	70	130	0.5195	4.9	20	
Barium	0.522	0.050	0.5	0.03597	97	70	130	0.5447	4.3	20	
Beryllium	0.237	0.0010	0.25	0	95	70	130	0.2547	7.0	20	
Cadmium	0.241	0.0010	0.25	0.0002954	96	70	130	0.2501	3.8	20	
Chromium	0.458	0.0050	0.5	0.001075	91	70	130	0.4841	5.6	20	
Cobalt	0.478	0.0050	0.5	0.0003973	95	70	130	0.499	4.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICPMS205-H_180613A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-011CMSD3** Method: **E200.8**

Analysis Date: **06/13/18 10:30** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.489	0.0050	0.5	0.02856	92	70	130	0.5222	6.5	20	
Iron	3.26	0.020	2.5	0.955	92	70	130	3.333	2.1	20	
Lead	0.476	0.0010	0.5	0.002815	95	70	130	0.5094	6.7	20	
Manganese	2.57	0.0010	2.5	0.1606	96	70	130	2.698	4.9	20	
Molybdenum	0.476	0.0010	0.5	0.00438	94	70	130	0.5055	6.0	20	
Nickel	0.461	0.0050	0.5	0.0013	92	70	130	0.4863	5.3	20	
Selenium	0.468	0.0010	0.5	0.0002098	94	70	130	0.496	5.7	20	
Silver	0.0473	0.0010	0.05	0.00006842	95	70	130	0.04887	3.2	20	
Uranium	0.458	0.00030	0.5	0.002418	91	70	130	0.4846	5.6	20	
Vanadium	0.463	0.010	0.5	0.003444	92	70	130	0.4894	5.6	20	
Zinc	0.518	0.010	0.5	0.05286	93	70	130	0.5442	4.9	20	

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180702A: 66** SampType: **Method Blank** Lab ID: **MB-41824** Method: **E200.8**

Analysis Date: **07/02/18 12:17** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	4E-05	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	0.0002	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41824

Run ID :Run Order: **ICPMS205-H_180702A: 66** SampType: **Method Blank** Lab ID: **MB-41824** Method: **E200.8**

Analysis Date: **07/02/18 12:17** Units: **mg/L** **Prep Info:** Prep Date: **6/12/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	1E-05									
Vanadium	0.0003	7E-05									
Zinc	0.0006	0.0003									

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41853

Run ID :Run Order: **FIA202-HE_180613B: 14** SampType: **Laboratory Control Sample** Lab ID: **LCS-41853** Method: **E365.1**
Analysis Date: **06/13/18 12:21** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.413	0.010	0.4	0	103	90	110				

Associated samples: **H18060191-001D, H18060191-002D**

Run ID :Run Order: **FIA202-HE_180613B: 15** SampType: **Method Blank** Lab ID: **MB-41853** Method: **E365.1**
Analysis Date: **06/13/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0006									

Associated samples: **H18060191-001D, H18060191-002D**

Run ID :Run Order: **FIA202-HE_180613B: 42** SampType: **Sample Matrix Spike** Lab ID: **H18060191-002DMS** Method: **E365.1**
Analysis Date: **06/13/18 12:52** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.218	0.010	0.2	0.00238	108	90	110				

Associated samples: **H18060191-001D, H18060191-002D**

Run ID :Run Order: **FIA202-HE_180613B: 43** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-002DMSD** Method: **E365.1**
Analysis Date: **06/13/18 12:54** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.213	0.010	0.2	0.00238	105	90	110	0.2176	2.3	20	

Associated samples: **H18060191-001D, H18060191-002D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41854

Run ID :Run Order: **FIA202-HE_180613B: 46** SampType: **Laboratory Control Sample** Lab ID: **LCS-41854** Method: **E365.1**
Analysis Date: **06/13/18 12:57** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.416	0.010	0.4	0	104	90	110				

Associated samples: **H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Run ID :Run Order: **FIA202-HE_180613B: 47** SampType: **Method Blank** Lab ID: **MB-41854** Method: **E365.1**
Analysis Date: **06/13/18 12:58** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0006									

Associated samples: **H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Run ID :Run Order: **FIA202-HE_180613B: 49** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003DMS** Method: **E365.1**
Analysis Date: **06/13/18 13:00** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.384	0.010	0.2	0.1547	115	90	110				S

Associated samples: **H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Run ID :Run Order: **FIA202-HE_180613B: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003DMSD** Method: **E365.1**
Analysis Date: **06/13/18 13:02** Units: **mg/L** **Prep Info:** Prep Date: **6/13/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.368	0.010	0.2	0.1547	106	90	110	0.3843	4.5	20	

Associated samples: **H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41874

Run ID :Run Order: **FIA202-HE_180614C: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-41874** Method: **E365.1**
Analysis Date: **06/14/18 13:42** Units: **mg/L** **Prep Info:** Prep Date: **6/14/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.380	0.010	0.4	0	95	90	110				

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA202-HE_180614C: 13** SampType: **Method Blank** Lab ID: **MB-41874** Method: **E365.1**
Analysis Date: **06/14/18 13:43** Units: **mg/L** **Prep Info:** Prep Date: **6/14/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0006									

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA202-HE_180614C: 15** SampType: **Sample Matrix Spike** Lab ID: **H18060191-011DMS** Method: **E365.1**
Analysis Date: **06/14/18 13:45** Units: **mg/L** **Prep Info:** Prep Date: **6/14/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.385	0.010	0.2	0.1726	106	90	110				

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA202-HE_180614C: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-011DMSD** Method: **E365.1**
Analysis Date: **06/14/18 13:46** Units: **mg/L** **Prep Info:** Prep Date: **6/14/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.399	0.010	0.2	0.1726	113	90	110	0.3847	3.6	20	S

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41890

Run ID :Run Order: **HGCV201-H_180620B: 28** SampType: **Method Blank** Lab ID: **MB-41890** Method: **SW7471B**
Analysis Date: **06/20/18 16:32** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **HGCV201-H_180620B: 29** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41890** Method: **SW7471B**
Analysis Date: **06/20/18 16:34** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.19	0	108	80	120				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **HGCV201-H_180620B: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS-41890** Method: **SW7471B**
Analysis Date: **06/20/18 16:36** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.5	0.50	5	0	110	71	126.4				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **HGCV201-H_180620B: 33** SampType: **Sample Matrix Spike** Lab ID: **H18060190-006AMS** Method: **SW7471B**
Analysis Date: **06/20/18 16:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.61	0.10	0.4419	0.1952	94	80	120				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **HGCV201-H_180620B: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-006AMSD** Method: **SW7471B**
Analysis Date: **06/20/18 16:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.63	0.10	0.4518	0.1952	97	80	120	0.6098	3.5	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41890

Run ID :Run Order: **HGCV201-H_180620B: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-006AMSD** Method: **SW7471B**

Analysis Date: **06/20/18 16:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41891

Run ID :Run Order: **HGCV201-H_180620B: 56** SampType: **Method Blank** Lab ID: **MB-41891** Method: **SW7471B**
Analysis Date: **06/20/18 17:35** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **HGCV201-H_180620B: 57** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41891** Method: **SW7471B**
Analysis Date: **06/20/18 17:37** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.192	0	108	80	120				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **HGCV201-H_180620B: 58** SampType: **Laboratory Control Sample** Lab ID: **LCS-41891** Method: **SW7471B**
Analysis Date: **06/20/18 17:42** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0	112	71	126.4				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **HGCV201-H_180620B: 61** SampType: **Sample Matrix Spike** Lab ID: **H18060190-007AMS** Method: **SW7471B**
Analysis Date: **06/20/18 17:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.29	0.10	0.2638	0.04073	94	80	120				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **HGCV201-H_180620B: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-007AMSD** Method: **SW7471B**
Analysis Date: **06/20/18 17:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.2502	0.04073	91	80	120	0.2878	6.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41891

Run ID :Run Order: **HGCV201-H_180620B: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-007AMSD** Method: **SW7471B**

Analysis Date: **06/20/18 17:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41892

Run ID :Run Order: **HGCV201-H_180620B: 84** SampType: **Method Blank** Lab ID: **MB-41892** Method: **SW7471B**
Analysis Date: **06/20/18 18:34** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 85** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41892** Method: **SW7471B**
Analysis Date: **06/20/18 18:36** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.192	0	**106**	80	120				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 86** SampType: **Laboratory Control Sample** Lab ID: **LCS-41892** Method: **SW7471B**
Analysis Date: **06/20/18 18:38** Units: **mg/kg** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.7	0.50	5	0	**113**	71	126.4				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 89** SampType: **Sample Matrix Spike** Lab ID: **H18060190-008AMS** Method: **SW7471B**
Analysis Date: **06/20/18 18:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.2567	0.007798	**101**	80	120				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **HGCV201-H_180620B: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-008AMSD** Method: **SW7471B**
Analysis Date: **06/20/18 18:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.2541	0.007798	**102**	80	120	0.266	**0.3**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41892

Run ID :Run Order: **HGCV201-H_180620B: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-008AMSD** Method: **SW7471B**

Analysis Date: **06/20/18 18:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/15/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICP2-HE_180625A: 74** SampType: **Method Blank** Lab ID: **MB-41894** Method: **SW6010B**

Analysis Date: **06/25/18 19:57** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	ND	0.2									
Copper	ND	0.6									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICP2-HE_180625A: 75** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41894** Method: **SW6010B**

Analysis Date: **06/25/18 20:01** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	252	5.0	252.5	0	**100**	80	120				
Boron	49.9	1.0	50.5	0	**99**	80	120				
Copper	51.0	1.0	50.5	0	**101**	80	120				
Iron	265	11	252.5	0	**105**	80	120				
Manganese	255	1.0	252.5	0	**101**	80	120				
Zinc	50.2	1.0	50.5	0	**99**	80	120				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICP2-HE_180625A: 76** SampType: **Laboratory Control Sample** Lab ID: **LCS-41894** Method: **SW6010B**

Analysis Date: **06/25/18 20:05** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9680	9.6	9830	0	**99**	46.3	130.2				
Boron	107	1.0	129	0	**83**	59.5	106.2				
Copper	123	2.7	137	0	**90**	76.6	108.8				
Iron	16400	53	16300	0	**101**	51.7	131.9				
Manganese	437	1.0	434	0	**101**	81.1	116.6				
Zinc	234	2.9	231	0	**101**	75.3	111.7				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICP2-HE_180625A: 93** SampType: **Serial Dilution** Lab ID: **H18060191-051ADIL** Method: **SW6010B**

Analysis Date: **06/25/18 21:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	27100	120		0		0	0	26080	**3.9**	10	
Boron	14.3	12		0		0	0	9.76		10	N
Copper	3390	35		0		0	0	3236	**4.6**	10	
Iron	37800	680		0		0	0	35150	**7.4**	10	
Manganese	873	11		0		0	0	823.2	**5.9**	10	
Zinc	3640	38		0		0	0	3386	**7.2**	10	

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICP2-HE_180625A: 94** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-051APDS** Method: **SW6010B**

Analysis Date: **06/25/18 21:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	30000	25	3234	26080		75	125				A
Boron	588	2.4	646.8	9.76	**89**	75	125				
Copper	3950	7.1	646.8	3236		75	125				A
Iron	39000	140	3234	35150		75	125				A
Manganese	3870	2.2	3234	823.2	**94**	75	125				
Zinc	4060	7.8	646.8	3386		75	125				A

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICP2-HE_180625A: 95** SampType: **Sample Matrix Spike** Lab ID: **H18060191-051AMS** Method: **SW6010B**

Analysis Date: **06/25/18 21:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	33700	25	628	26080		75	125				A
Boron	126	2.4	125.6	9.76	**93**	75	125				
Copper	3770	6.9	125.6	3236		75	125				A
Iron	39900	140	628	35150		75	125				A
Manganese	1530	2.1	628	823.2	**113**	75	125				
Zinc	3900	7.6	125.6	3386		75	125				A

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICP2-HE_180625A: 96** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-051AMSD** Method: **SW6010B**

Analysis Date: **06/25/18 21:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	31900	24	622.2	26080		75	125	33740	**5.6**	20	A
Boron	127	2.3	124.4	9.76	**94**	75	125	126.5	**0.4**	20	
Copper	3930	6.8	124.4	3236		75	125	3770	**4.2**	20	A
Iron	36900	140	622.2	35150		75	125	39890	**7.8**	20	A
Manganese	1450	2.1	622.2	823.2	**101**	75	125	1531	**5.2**	20	
Zinc	3800	7.5	124.4	3386		75	125	3900	**2.5**	20	A

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180620B: 157** SampType: **Method Blank** Lab ID: **MB-41894** Method: **SW6020**

Analysis Date: **06/20/18 22:26** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									
Vanadium	ND	0.08									

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICPMS205-H_180620B: 165** SampType: **Laboratory Control Sample** Lab ID: **LCS-41894** Method: **SW6020**

Analysis Date: **06/20/18 22:42** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9700	15	9830	0	99	46.3	130.2				
Antimony	73.1	1.0	240	0	30	0	92.9				
Arsenic	169	1.0	196	0	86	71.4	105.1				
Barium	184	1.0	187	0	99	78.6	112.8				
Beryllium	67.5	1.0	83.6	0	81	76.2	108				
Cadmium	97.7	1.0	99	0	99	73.9	106.1				
Calcium	5510	430	6360	0	87	78.9	113.5				
Chromium	109	1.0	117	0	93	73.5	108.5				
Cobalt	107	1.0	108	0	99	74.2	105.6				
Lead	102	1.0	105	0	97	74.4	108.6				
Molybdenum	119	1.0	127	0	94	66.5	103.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180620B: 165** SampType: **Laboratory Control Sample** Lab ID: **LCS-41894** Method: **SW6020**

Analysis Date: **06/20/18 22:42** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	81.7	1.0	86.2	0	**95**	72.3	105				
Selenium	177	1.0	205	0	**87**	71.2	110.2				
Silver	41.6	1.0	42.1	0	**99**	70.8	111.9				
Uranium	92.5	1.0	99.9	0	**93**	80.1	120.1				
Vanadium	108	1.0	114	0	**95**	67	107				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICPMS205-H_180620B: 166** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41894** Method: **SW6020**

Analysis Date: **06/20/18 22:43** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	249	16	252.5	0	**99**	80	120				
Antimony	54.7	1.0	50.5	0	**108**	80	120				
Arsenic	52.3	1.0	50.5	0	**104**	80	120				
Barium	54.0	1.0	50.5	0	**107**	80	120				
Beryllium	23.9	1.0	25.25	0	**95**	80	120				
Cadmium	26.4	1.0	25.25	0	**105**	80	120				
Calcium	2420	440	2525	0	**96**	80	120				
Chromium	51.3	1.0	50.5	0	**102**	80	120				
Cobalt	52.6	1.0	50.5	0	**104**	80	120				
Lead	51.0	1.0	50.5	0	**101**	80	120				
Molybdenum	52.5	1.0	50.5	0	**104**	80	120				
Nickel	52.9	1.0	50.5	0	**105**	80	120				
Selenium	50.0	1.0	50.5	0	**99**	80	120				
Silver	26.9	1.0	25.25	0	**106**	80	120				
Uranium	51.5	1.0	50.5	0	**102**	80	120				
Vanadium	51.1	1.0	50.5	0	**101**	80	120				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180620B: 176** SampType: **Serial Dilution** Lab ID: **H18060191-051ADIL** Method: **SW6020**

Analysis Date: **06/20/18 23:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25900	200		0		0	0	26560	**2.7**	10	
Antimony	ND	11		0		0	0	4.608		10	
Arsenic	307	2.4		0		0	0	308.8	**0.5**	10	
Barium	403	12		0		0	0	401.8	**0.2**	10	
Beryllium	ND	3.7		0		0	0	1.473		10	
Cadmium	17.5	1.1		0		0	0	17.22	**1.7**	10	
Calcium	8160	5500		0		0	0	8385		10	N
Chromium	49.9	7.6		0		0	0	50.03		10	N
Cobalt	14.8	12		0		0	0	14.95		10	N
Lead	909	4.6		0		0	0	873.8	**3.9**	10	
Molybdenum	14.3	2.1		0		0	0	14.09		10	N
Nickel	28.2	4.7		0		0	0	28.34		10	N
Selenium	ND	4.4		0		0	0	2.52		10	
Silver	13.9	2.1		0		0	0	14.14		10	N
Uranium	15.5	1.2		0		0	0	15	**3.5**	10	
Vanadium	75.7	4.6		0		0	0	75.59	**0.2**	10	

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICPMS205-H_180620B: 177** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-051APDS1** Method: **SW6020**

Analysis Date: **06/20/18 23:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26100	39	62.8	26560		75	125				A
Antimony	69.2	2.1	62.8	4.608	**103**	75	125				
Arsenic	363	1.0	62.8	308.8		75	125				A
Barium	456	2.3	62.8	401.8		75	125				A
Beryllium	55.4	1.0	62.8	1.473	**86**	75	125				
Cadmium	78.9	1.0	62.8	17.22	**98**	75	125				
Calcium	9360	1100	1256	8385		75	125				A
Chromium	109	1.5	62.8	50.03	**94**	75	125				
Cobalt	76.0	2.4	62.8	14.95	**97**	75	125				
Lead	915	1.0	62.8	873.8		75	125				A
Molybdenum	75.8	1.0	62.8	14.09	**98**	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limit; N - Analyte concentration was not sufficiently high to calculate RPD; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits; A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180620B: 177** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-051APDS1** Method: **SW6020**

Analysis Date: **06/20/18 23:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	89.7	1.0	62.8	28.34	98	75	125				
Selenium	62.2	1.0	62.8	2.52	95	75	125				
Silver	39.2	1.0	25.12	14.14	100	75	125				
Uranium	70.1	1.0	62.8	15	88	75	125				
Vanadium	134	1.0	62.8	75.59	92	75	125				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICPMS205-H_180620B: 178** SampType: **Sample Matrix Spike** Lab ID: **H18060191-051AMS** Method: **SW6020**

Analysis Date: **06/20/18 23:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	35000	39	628	26560		75	125				AE
Antimony	59.5	2.1	125.6	4.608	44	75	125				S
Arsenic	475	1.0	125.6	308.8	133	75	125				S
Barium	589	2.3	125.6	401.8	149	75	125				S
Beryllium	60.0	1.0	62.8	1.473	93	75	125				
Cadmium	85.3	1.0	62.8	17.22	108	75	125				
Calcium	15200	1100	6280	8385	108	75	125				E
Chromium	183	1.5	125.6	50.03	106	75	125				
Cobalt	150	2.4	125.6	14.95	108	75	125				
Lead	1130	1.0	125.6	873.8		75	125				A
Molybdenum	143	1.0	125.6	14.09	103	75	125				
Nickel	163	1.0	125.6	28.34	107	75	125				
Selenium	128	1.0	125.6	2.52	100	75	125				
Silver	82.9	1.0	62.8	14.14	110	75	125				
Uranium	143	1.0	125.6	15	102	75	125				
Vanadium	215	1.0	125.6	75.59	111	75	125				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180620B: 179** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-051AMSD** Method: **SW6020**

Analysis Date: **06/20/18 23:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	33400	39	622.2	26560		75	125	34950	4.7	20	AE
Antimony	64.1	2.1	124.4	4.608	48	75	125	59.48	7.4	20	S
Arsenic	491	1.0	124.4	308.8	146	75	125	475.4	3.2	20	S
Barium	533	2.3	124.4	401.8	105	75	125	589.4	10	20	
Beryllium	55.5	1.0	62.22	1.473	87	75	125	59.97	7.8	20	
Cadmium	86.9	1.0	62.22	17.22	112	75	125	85.31	1.8	20	
Calcium	14200	1100	6222	8385	94	75	125	15180	6.6	20	E
Chromium	182	1.5	124.4	50.03	106	75	125	183.2	0.5	20	
Cobalt	150	2.3	124.4	14.95	108	75	125	150	0.1	20	
Lead	1140	1.0	124.4	873.8		75	125	1126	0.9	20	A
Molybdenum	145	1.0	124.4	14.09	105	75	125	143.1	1.2	20	
Nickel	164	1.0	124.4	28.34	109	75	125	162.7	0.7	20	
Selenium	124	1.0	124.4	2.52	98	75	125	127.9	2.7	20	
Silver	84.2	1.0	62.22	14.14	113	75	125	82.95	1.5	20	
Uranium	138	1.0	124.4	15	99	75	125	142.9	3.5	20	
Vanadium	212	1.0	124.4	75.59	110	75	125	214.6	1.2	20	

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180625B: 27** SampType: **Method Blank** Lab ID: **MB-41894** Method: **SW6020**

Analysis Date: **06/26/18 00:38** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180625B: 27** SampType: **Method Blank** Lab ID: **MB-41894** Method: **SW6020**

Analysis Date: **06/26/18 00:38** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	0.1	0.03									
Uranium	ND	0.02									
Vanadium	0.08	0.08									

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Run ID :Run Order: **ICPMS205-H_180625B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18060191-051AMS** Method: **SW6020**

Analysis Date: **06/26/18 00:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	34400	39	628	26780		75	125				AE
Antimony	56.7	2.1	125.6	3.985	42	75	125				S
Arsenic	464	1.0	125.6	306.6	126	75	125				S
Barium	560	2.3	125.6	376.5	146	75	125				S
Beryllium	63.6	1.0	62.8	1.344	99	75	125				
Cadmium	82.5	1.0	62.8	16.28	105	75	125				
Calcium	15700	1100	6280	8738	111	75	125				E
Chromium	185	1.5	125.6	51.8	106	75	125				
Cobalt	148	2.4	125.6	15.12	106	75	125				
Lead	1130	1.0	125.6	874		75	125				A
Molybdenum	142	1.0	125.6	13.58	102	75	125				
Nickel	161	1.0	125.6	28.57	106	75	125				
Selenium	126	1.0	125.6	2.787	98	75	125				
Silver	80.4	1.0	62.8	13.64	106	75	125				
Uranium	140	1.0	125.6	15.18	99	75	125				
Vanadium	217	1.0	125.6	78.67	110	75	125				

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41894

Run ID :Run Order: **ICPMS205-H_180625B: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-051AMSD** Method: **SW6020**

Analysis Date: **06/26/18 00:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	32900	39	622.2	26780		75	125	34390	**4.5**	20	AE
Antimony	60.2	2.1	124.4	3.985	**45**	75	125	56.73	**5.9**	20	S
Arsenic	474	1.0	124.4	306.6	**135**	75	125	464.2	**2.1**	20	S
Barium	490	2.3	124.4	376.5	**91**	75	125	560.2	**13**	20	
Beryllium	61.2	1.0	62.22	1.344	**96**	75	125	63.55	**3.7**	20	
Cadmium	81.5	1.0	62.22	16.28	**105**	75	125	82.49	**1.2**	20	
Calcium	14600	1100	6222	8738	**94**	75	125	15690	**7.2**	20	E
Chromium	182	1.5	124.4	51.8	**105**	75	125	184.6	**1.2**	20	
Cobalt	147	2.3	124.4	15.12	**106**	75	125	148.3	**1.1**	20	
Lead	1110	1.0	124.4	874		75	125	1134	**1.7**	20	A
Molybdenum	139	1.0	124.4	13.58	**101**	75	125	141.7	**2.1**	20	
Nickel	159	1.0	124.4	28.57	**105**	75	125	161.4	**1.7**	20	
Selenium	124	1.0	124.4	2.787	**98**	75	125	125.6	**1.0**	20	
Silver	79.8	1.0	62.22	13.64	**106**	75	125	80.38	**0.7**	20	
Uranium	131	1.0	124.4	15.18	**93**	75	125	140	**6.8**	20	
Vanadium	212	1.0	124.4	78.67	**107**	75	125	217.4	**2.4**	20	

Associated samples: **H18060191-018A, H18060191-021A, H18060191-024A, H18060191-027A, H18060191-030A, H18060191-033A, H18060191-036A, H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICP2-HE_180625A: 100** SampType: **Method Blank** Lab ID: **MB-41895** Method: **SW6010B**

Analysis Date: **06/25/18 21:33** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	0.2	0.2									
Copper	ND	0.6									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICP2-HE_180625A: 103** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41895** Method: **SW6010B**

Analysis Date: **06/25/18 21:45** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	247	5.0	247.5	0	**100**	80	120				
Boron	48.7	1.0	49.5	0.2055	**98**	80	120				
Copper	50.0	1.0	49.5	0	**101**	80	120				
Iron	260	11	247.5	0	**105**	80	120				
Manganese	251	1.0	247.5	0	**102**	80	120				
Zinc	49.4	1.0	49.5	0	**100**	80	120				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICP2-HE_180625A: 104** SampType: **Laboratory Control Sample** Lab ID: **LCS-41895** Method: **SW6010B**

Analysis Date: **06/25/18 21:49** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10200	10	9830	0	**104**	46.3	130.2				
Boron	111	1.0	129	0.2055	**86**	59.5	106.2				
Copper	122	2.8	137	0	**89**	76.6	108.8				
Iron	16700	55	16300	0	**102**	51.7	131.9				
Manganese	422	1.0	434	0	**97**	81.1	116.6				
Zinc	240	3.1	231	0	**104**	75.3	111.7				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICP2-HE_180625A: 130** SampType: **Serial Dilution** Lab ID: **H18060191-061ADIL** Method: **SW6010B**

Analysis Date: **06/25/18 23:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3440	60		0		0	0	3406	1.1	10	
Boron	ND	5.7		0		0	0	0		10	
Copper	55.6	17		0		0	0	56.18		10	N
Iron	20800	330		0		0	0	20220	3.0	10	
Manganese	378	5.1		0		0	0	373.1	1.2	10	
Zinc	203	18		0		0	0	201.3	0.8	10	

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICP2-HE_180625A: 131** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-061APDS** Method: **SW6010B**

Analysis Date: **06/25/18 23:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4990	12	1570	3406	101	75	125				
Boron	283	1.2	314	0	90	75	125				
Copper	357	3.5	314	56.18	96	75	125				
Iron	21000	68	1570	20220		75	125				A
Manganese	1800	1.1	1570	373.1	91	75	125				
Zinc	478	3.8	314	201.3	88	75	125				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICP2-HE_180625A: 134** SampType: **Sample Matrix Spike** Lab ID: **H18060191-061AMS** Method: **SW6010B**

Analysis Date: **06/25/18 23:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4750	12	305.1	3406		75	125				A
Boron	60.3	1.1	61.03	0	99	75	125				
Copper	134	3.4	61.03	56.18	128	75	125				S
Iron	17200	66	305.1	20220		75	125				A
Manganese	645	1.0	305.1	373.1	89	75	125				
Zinc	282	3.7	61.03	201.3	132	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICP2-HE_180625A: 134** SampType: **Sample Matrix Spike** Lab ID: **H18060191-061AMS** Method: **SW6010B**

Analysis Date: **06/25/18 23:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180625A: 135** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-061AMSD** Method: **SW6010B**

Analysis Date: **06/25/18 23:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4840	12	302.3	3406		75	125	4750	**2.0**	20	A
Boron	57.2	1.1	60.46	0	**95**	75	125	60.26	**5.2**	20	
Copper	114	3.3	60.46	56.18	**95**	75	125	134.2	**17**	20	
Iron	18500	66	302.3	20220		75	125	17170	**7.4**	20	A
Manganese	676	1.0	302.3	373.1	**100**	75	125	645.3	**4.7**	20	
Zinc	230	3.6	60.46	201.3	**48**	75	125	281.9	**20**	20	SR

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICPMS205-H_180620B: 191** SampType: **Method Blank** Lab ID: **MB-41895** Method: **SW6020**

Analysis Date: **06/20/18 23:32** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Copper	ND	0.3									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	0.4	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									
Vanadium	0.07	0.07									

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICPMS205-H_180620B: 199** SampType: **Laboratory Control Sample** Lab ID: **LCS-41895** Method: **SW6020**

Analysis Date: **06/20/18 23:47** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10700	16	9830	0	108	46.3	130.2				
Antimony	69.6	1.0	240	0	29	0	92.9				
Arsenic	177	1.0	196	0	91	71.4	105.1				
Barium	198	1.0	187	0	106	78.6	112.8				
Beryllium	72.6	1.0	83.6	0	87	76.2	108				
Cadmium	101	1.0	99	0	102	73.9	106.1				
Calcium	6100	440	6360	0	96	78.9	113.5				
Chromium	112	1.0	117	0	96	73.5	108.5				
Cobalt	111	1.0	108	0	103	74.2	105.6				
Copper	130	1.6	137	0	95	76.6	108.8				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICPMS205-H_180620B: 199** SampType: **Laboratory Control Sample** Lab ID: **LCS-41895** Method: **SW6020**

Analysis Date: **06/20/18 23:47** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	104	1.0	105	0	99	74.4	108.6				
Molybdenum	123	1.0	127	0	97	66.5	103.1				
Nickel	84.8	1.0	86.2	0.354	98	72.3	105				
Selenium	192	1.0	205	0	94	71.2	110.2				
Silver	43.1	1.0	42.1	0	102	70.8	111.9				
Uranium	96.3	1.0	99.9	0	96	80.1	120.1				
Vanadium	113	1.0	114	0.07457	99	67	107				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICPMS205-H_180620B: 200** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41895** Method: **SW6020**

Analysis Date: **06/20/18 23:49** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	249	15	247.5	0	101	80	120				
Antimony	54.4	1.0	49.5	0	110	80	120				
Arsenic	51.5	1.0	49.5	0	104	80	120				
Barium	53.9	1.0	49.5	0	109	80	120				
Beryllium	23.2	1.0	24.75	0	94	80	120				
Cadmium	26.1	1.0	24.75	0	106	80	120				
Calcium	2400	430	2475	0	97	80	120				
Chromium	50.3	1.0	49.5	0	102	80	120				
Cobalt	51.8	1.0	49.5	0	105	80	120				
Copper	52.4	1.6	49.5	0	106	80	120				
Lead	50.0	1.0	49.5	0	101	80	120				
Molybdenum	51.7	1.0	49.5	0	105	80	120				
Nickel	52.0	1.0	49.5	0.354	104	80	120				
Selenium	49.9	1.0	49.5	0	101	80	120				
Silver	26.4	1.0	24.75	0	107	80	120				
Uranium	49.3	1.0	49.5	0	100	80	120				
Vanadium	50.1	1.0	49.5	0.07457	101	80	120				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICPMS205-H_180622B: 39** SampType: **Method Blank** Lab ID: **MB-41895** Method: **SW6020**

Analysis Date: **06/22/18 13:17** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Copper	ND	0.3									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	0.4	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									
Vanadium	0.1	0.07									

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICPMS205-H_180622B: 46** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-061APDS1** Method: **SW6020**

Analysis Date: **06/22/18 13:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3330	19	30.48	3401		75	125				A
Antimony	31.7	1.0	30.48	0	104	75	125				
Arsenic	41.7	1.0	30.48	11.29	100	75	125				
Barium	94.8	1.1	30.48	65.96	95	75	125				
Beryllium	27.7	1.0	30.48	0	91	75	125				
Cadmium	31.0	1.0	30.48	0.5776	100	75	125				
Calcium	2450	530	609.6	1964	80	75	125				
Chromium	44.8	1.0	30.48	15.34	97	75	125				
Cobalt	33.1	1.1	30.48	3.011	99	75	125				
Copper	87.3	1.9	30.48	58.16	96	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICPMS205-H_180622B: 46** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-061APDS1** Method: **SW6020**

Analysis Date: **06/22/18 13:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	58.5	1.0	30.48	28.85	97	75	125				
Molybdenum	30.3	1.0	30.48	0.4938	98	75	125				
Nickel	35.1	1.0	30.48	4.912	99	75	125				
Selenium	30.1	1.0	30.48	0	99	75	125				
Silver	12.5	1.0	12.19	0.3076	100	75	125				
Uranium	45.0	1.0	30.48	15.2	98	75	125				
Vanadium	92.1	1.0	30.48	63.64	93	75	125				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Run ID :Run Order: **ICPMS205-H_180622B: 47** SampType: **Sample Matrix Spike** Lab ID: **H18060191-061AMS** Method: **SW6020**

Analysis Date: **06/22/18 13:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4560	19	305.1	3401		75	125				AE
Antimony	46.9	1.0	61.03	0	77	75	125				
Arsenic	78.3	1.0	61.03	11.29	110	75	125				
Barium	132	1.1	61.03	65.96	109	75	125				
Beryllium	29.6	1.0	30.51	0	97	75	125				
Cadmium	32.3	1.0	30.51	0.5776	104	75	125				
Calcium	5090	530	3051	1964	102	75	125				E
Chromium	74.3	1.0	61.03	15.34	97	75	125				
Cobalt	65.6	1.1	61.03	3.011	103	75	125				
Copper	136	1.9	61.03	58.16	128	75	125				S
Lead	92.1	1.0	61.03	28.85	104	75	125				
Molybdenum	61.5	1.0	61.03	0.4938	100	75	125				
Nickel	66.7	1.0	61.03	4.912	101	75	125				
Selenium	62.7	1.0	61.03	0	103	75	125				
Silver	31.9	1.0	30.51	0.3076	104	75	125				
Uranium	64.6	1.0	61.03	15.2	81	75	125				
Vanadium	111	1.0	61.03	63.64	77	75	125				

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41895

Run ID :Run Order: **ICPMS205-H_180622B: 48** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-061AMSD** Method: **SW6020**

Analysis Date: **06/22/18 13:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4550	19	302.3	3401		75	125	4557	**0.1**	20	AE
Antimony	46.0	1.0	60.46	0	**76**	75	125	46.87	**1.8**	20	
Arsenic	74.7	1.0	60.46	11.29	**105**	75	125	78.34	**4.8**	20	
Barium	136	1.1	60.46	65.96	**116**	75	125	132.3	**2.7**	20	
Beryllium	27.9	1.0	30.23	0	**92**	75	125	29.59	**5.7**	20	
Cadmium	31.5	1.0	30.23	0.5776	**102**	75	125	32.28	**2.6**	20	
Calcium	5010	530	3023	1964	**101**	75	125	5090	**1.5**	20	E
Chromium	74.7	1.0	60.46	15.34	**98**	75	125	74.31	**0.5**	20	
Cobalt	64.5	1.1	60.46	3.011	**102**	75	125	65.6	**1.7**	20	
Copper	112	1.9	60.46	58.16	**90**	75	125	136	**19**	20	
Lead	88.0	1.0	60.46	28.85	**98**	75	125	92.11	**4.6**	20	
Molybdenum	60.6	1.0	60.46	0.4938	**99**	75	125	61.45	**1.3**	20	
Nickel	66.1	1.0	60.46	4.912	**101**	75	125	66.69	**0.9**	20	
Selenium	61.9	1.0	60.46	0	**102**	75	125	62.73	**1.4**	20	
Silver	31.8	1.0	30.23	0.3076	**104**	75	125	31.9	**0.4**	20	
Uranium	67.0	1.0	60.46	15.2	**86**	75	125	64.62	**3.7**	20	
Vanadium	112	1.0	60.46	63.64	**81**	75	125	110.6	**1.6**	20	

Associated samples: **H18060191-019A, H18060191-022A, H18060191-025A, H18060191-028A, H18060191-031A, H18060191-034A, H18060191-037A, H18060191-040A, H18060191-043A, H18060191-046A, H18060191-049A, H18060191-052A, H18060191-055A, H18060191-058A, H18060191-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICP2-HE_180625A: 136** SampType: **Method Blank** Lab ID: **MB-41896** Method: **SW6010B**

Analysis Date: **06/25/18 23:48** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	ND	0.2									
Copper	ND	0.6									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICP2-HE_180625A: 137** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41896** Method: **SW6010B**

Analysis Date: **06/25/18 23:52** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	250	5.0	247.5	0	**101**	80	120				
Boron	49.4	1.0	49.5	0	**100**	80	120				
Copper	50.5	1.0	49.5	0	**102**	80	120				
Iron	264	11	247.5	0	**107**	80	120				
Manganese	258	1.0	247.5	0	**104**	80	120				
Zinc	50.4	1.0	49.5	0	**102**	80	120				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICP2-HE_180625A: 138** SampType: **Laboratory Control Sample** Lab ID: **LCS-41896** Method: **SW6010B**

Analysis Date: **06/25/18 23:56** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9800	9.5	9830	0	**100**	46.3	130.2				
Boron	108	1.0	129	0	**84**	59.5	106.2				
Copper	120	2.7	137	0	**88**	76.6	108.8				
Iron	16500	53	16300	0	**101**	51.7	131.9				
Manganese	429	1.0	434	0	**99**	81.1	116.6				
Zinc	239	2.9	231	0	**103**	75.3	111.7				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICP2-HE_180625A: 158** SampType: **Serial Dilution** Lab ID: **H18060191-062ADIL** Method: **SW6010B**

Analysis Date: **06/26/18 01:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3290	57		0		0	0	3251	1.3	10	
Boron	ND	5.5		0		0	0	0		10	
Copper	95.9	16		0		0	0	97.33		10	N
Iron	6480	320		0		0	0	6465	0.3	10	
Manganese	267	4.9		0		0	0	265.2	0.8	10	
Zinc	125	18		0		0	0	118.7		10	N

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICP2-HE_180625A: 159** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-062APDS** Method: **SW6010B**

Analysis Date: **06/26/18 01:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4920	12	1506	3251	111	75	125				
Boron	276	1.1	301.3	0	92	75	125				
Copper	400	3.3	301.3	97.33	100	75	125				
Iron	8080	65	1506	6465		75	125				A
Manganese	1780	1.0	1506	265.2	100	75	125				
Zinc	400	3.6	301.3	118.7	93	75	125				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICP2-HE_180625A: 160** SampType: **Sample Matrix Spike** Lab ID: **H18060191-062AMS** Method: **SW6010B**

Analysis Date: **06/26/18 01:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4190	11	292.5	3251		75	125				A
Boron	54.8	1.1	58.5	0	94	75	125				
Copper	116	3.2	58.5	97.33	32	75	125				S
Iron	5840	64	292.5	6465		75	125				A
Manganese	580	1.0	292.5	265.2	107	75	125				
Zinc	151	3.5	58.5	118.7	55	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICP2-HE_180625A: 160** SampType: **Sample Matrix Spike** Lab ID: **H18060191-062AMS** Method: **SW6010B**

Analysis Date: **06/26/18 01:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_180625A: 161** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-062AMSD** Method: **SW6010B**

Analysis Date: **06/26/18 01:22** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4380	11	292.5	3251		75	125	4190	**4.4**	20	A
Boron	55.5	1.1	58.5	0	**95**	75	125	54.84	**1.2**	20	
Copper	91.9	3.2	58.5	97.33	**-9**	75	125	116	**23**	20	SR
Iron	5990	64	292.5	6465		75	125	5838	**2.6**	20	A
Manganese	551	1.0	292.5	265.2	**98**	75	125	579.6	**5.1**	20	
Zinc	160	3.5	58.5	118.7	**70**	75	125	151.1	**5.6**	20	S

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180620B: 225** SampType: **Method Blank** Lab ID: **MB-41896** Method: **SW6020**

Analysis Date: **06/21/18 00:38** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									
Molybdenum	0.03	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									
Vanadium	ND	0.07									

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICPMS205-H_180620B: 233** SampType: **Laboratory Control Sample** Lab ID: **LCS-41896** Method: **SW6020**

Analysis Date: **06/21/18 00:53** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9980	15	9830	0	101	46.3	130.2				
Antimony	66.9	1.0	240	0	28	0	92.9				
Arsenic	173	1.0	196	0	88	71.4	105.1				
Barium	194	1.0	187	0	104	78.6	112.8				
Beryllium	75.0	1.0	83.6	0	90	76.2	108				
Cadmium	98.2	1.0	99	0	99	73.9	106.1				
Calcium	6030	420	6360	0	95	78.9	113.5				
Chromium	110	1.0	117	0	94	73.5	108.5				
Cobalt	109	1.0	108	0	101	74.2	105.6				
Lead	104	1.0	105	0	99	74.4	108.6				
Molybdenum	120	1.0	127	0.03345	94	66.5	103.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180620B: 233** SampType: **Laboratory Control Sample** Lab ID: **LCS-41896** Method: **SW6020**

Analysis Date: **06/21/18 00:53** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	82.0	1.0	86.2	0	**95**	72.3	105				
Selenium	196	1.0	205	0	**95**	71.2	110.2				
Silver	42.2	1.0	42.1	0	**100**	70.8	111.9				
Uranium	97.2	1.0	99.9	0	**97**	80.1	120.1				
Vanadium	109	1.0	114	0	**96**	67	107				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICPMS205-H_180620B: 234** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-41896** Method: **SW6020**

Analysis Date: **06/21/18 00:55** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	247	15	247.5	0	**100**	80	120				
Antimony	53.5	1.0	49.5	0	**108**	80	120				
Arsenic	51.4	1.0	49.5	0	**104**	80	120				
Barium	53.3	1.0	49.5	0	**108**	80	120				
Beryllium	24.1	1.0	24.75	0	**97**	80	120				
Cadmium	25.9	1.0	24.75	0	**105**	80	120				
Calcium	2370	430	2475	0	**96**	80	120				
Chromium	50.1	1.0	49.5	0	**101**	80	120				
Cobalt	51.4	1.0	49.5	0	**104**	80	120				
Lead	49.0	1.0	49.5	0	**99**	80	120				
Molybdenum	50.9	1.0	49.5	0.03345	**103**	80	120				
Nickel	52.3	1.0	49.5	0	**106**	80	120				
Selenium	49.4	1.0	49.5	0	**100**	80	120				
Silver	26.1	1.0	24.75	0	**105**	80	120				
Uranium	48.6	1.0	49.5	0	**98**	80	120				
Vanadium	49.7	1.0	49.5	0	**101**	80	120				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180620B: 251** SampType: **Serial Dilution** Lab ID: **H18060191-062ADIL** Method: **SW6020**

Analysis Date: **06/21/18 01:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3160	91		0		0	0	3122	**1.4**	10	
Antimony	ND	5.0		0		0	0	0		10	
Arsenic	12.2	1.1		0		0	0	12.14	**0.7**	10	
Barium	54.6	5.4		0		0	0	55.68	**1.9**	10	
Beryllium	ND	1.7		0		0	0	0		10	
Cadmium	0.593	1.0		0		0	0	0.6072		10	N
Calcium	3650	2500		0		0	0	3731		10	N
Chromium	7.91	3.5		0		0	0	7.95		10	N
Cobalt	ND	5.5		0		0	0	3.298		10	
Lead	16.3	2.1		0		0	0	16.83		10	N
Molybdenum	ND	1.0		0		0	0	0.3892		10	
Nickel	4.36	2.2		0		0	0	4.633		10	N
Selenium	ND	2.0		0		0	0	0		10	
Silver	ND	1.0		0		0	0	0		10	
Uranium	1.17	1.0		0		0	0	1.198		10	N
Vanadium	12.6	2.2		0		0	0	12.83		10	N

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICPMS205-H_180620B: 252** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-062APDS1** Method: **SW6020**

Analysis Date: **06/21/18 01:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3180	18	29.25	3122		75	125				A
Antimony	31.9	1.0	29.25	0	**109**	75	125				
Arsenic	41.2	1.0	29.25	12.14	**100**	75	125				
Barium	86.5	1.1	29.25	55.68	**105**	75	125				
Beryllium	25.8	1.0	29.25	0	**88**	75	125				
Cadmium	30.7	1.0	29.25	0.6072	**103**	75	125				
Calcium	4240	510	585	3731		75	125				A
Chromium	36.3	1.0	29.25	7.95	**97**	75	125				
Cobalt	32.8	1.1	29.25	3.298	**101**	75	125				
Lead	46.4	1.0	29.25	16.83	**101**	75	125				
Molybdenum	30.4	1.0	29.25	0.3892	**103**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180620B: 252** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18060191-062APDS1** Method: **SW6020**

Analysis Date: **06/21/18 01:30** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	34.0	1.0	29.25	4.633	100	75	125				
Selenium	28.5	1.0	29.25	0	98	75	125				
Silver	12.4	1.0	11.7	0	106	75	125				
Uranium	30.0	1.0	29.25	1.198	99	75	125				
Vanadium	41.0	1.0	29.25	12.83	96	75	125				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICPMS205-H_180620B: 253** SampType: **Sample Matrix Spike** Lab ID: **H18060191-062AMS** Method: **SW6020**

Analysis Date: **06/21/18 01:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3850	18	292.5	3122		75	125				AE
Antimony	51.8	1.0	58.5	0	89	75	125				
Arsenic	69.3	1.0	58.5	12.14	98	75	125				
Barium	158	1.1	58.5	55.68	176	75	125				S
Beryllium	26.4	1.0	29.25	0	90	75	125				
Cadmium	30.5	1.0	29.25	0.6072	102	75	125				
Calcium	3930	510	2925	3731	7	75	125				SE
Chromium	63.9	1.0	58.5	7.95	96	75	125				
Cobalt	61.4	1.1	58.5	3.298	99	75	125				
Lead	82.3	1.0	58.5	16.83	112	75	125				
Molybdenum	59.8	1.0	58.5	0.3892	102	75	125				
Nickel	63.8	1.0	58.5	4.633	101	75	125				
Selenium	56.9	1.0	58.5	0	97	75	125				
Silver	30.6	1.0	29.25	0	105	75	125				
Uranium	59.0	1.0	58.5	1.198	99	75	125				
Vanadium	69.8	1.0	58.5	12.83	97	75	125				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180620B: 254** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-062AMSD** Method: **SW6020**

Analysis Date: **06/21/18 01:34** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4080	18	292.5	3122		75	125	3845	6.0	20	AE
Antimony	50.9	1.0	58.5	0	87	75	125	51.84	1.8	20	
Arsenic	66.7	1.0	58.5	12.14	93	75	125	69.26	3.7	20	
Barium	150	1.1	58.5	55.68	161	75	125	158.4	5.4	20	S
Beryllium	26.4	1.0	29.25	0	90	75	125	26.45	0.1	20	
Cadmium	31.0	1.0	29.25	0.6072	104	75	125	30.48	1.7	20	
Calcium	4570	510	2925	3731	29	75	125	3935	15	20	SE
Chromium	66.6	1.0	58.5	7.95	100	75	125	63.94	4.1	20	
Cobalt	63.0	1.1	58.5	3.298	102	75	125	61.43	2.5	20	
Lead	73.4	1.0	58.5	16.83	97	75	125	82.31	11	20	
Molybdenum	60.5	1.0	58.5	0.3892	103	75	125	59.85	1.1	20	
Nickel	65.9	1.0	58.5	4.633	105	75	125	63.77	3.2	20	
Selenium	57.4	1.0	58.5	0	98	75	125	56.93	0.7	20	
Silver	33.7	1.0	29.25	0	115	75	125	30.6	9.8	20	
Uranium	61.1	1.0	58.5	1.198	102	75	125	58.97	3.5	20	
Vanadium	69.6	1.0	58.5	12.83	97	75	125	69.85	0.3	20	

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_180626A: 35** SampType: **Method Blank** Lab ID: **MB-41896** Method: **SW6020**

Analysis Date: **06/26/18 12:06** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	3									
Antimony	ND	0.2									
Arsenic	ND	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180626A: 35** SampType: **Method Blank** Lab ID: **MB-41896** Method: **SW6020**

Analysis Date: **06/26/18 12:06** Units: **mg/kg** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.03	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	0.07	0.03									
Uranium	ND	0.02									
Vanadium	0.10	0.07									

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Run ID :Run Order: **ICPMS205-H_180626A: 37** SampType: **Sample Matrix Spike** Lab ID: **H18060191-062AMS** Method: **SW6020**

Analysis Date: **06/26/18 12:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3940	18	292.5	3181		75	125				AE
Antimony	50.8	1.0	58.5	0	87	75	125				
Arsenic	69.1	1.0	58.5	12.04	98	75	125				
Barium	156	1.1	58.5	54.76	173	75	125				S
Beryllium	28.4	1.0	29.25	0	97	75	125				
Cadmium	30.1	1.0	29.25	0.5753	101	75	125				
Calcium	4000	510	2925	3642	12	75	125				SE
Chromium	65.2	1.0	58.5	8.313	97	75	125				
Cobalt	62.0	1.1	58.5	3.385	100	75	125				
Lead	90.0	1.0	58.5	18.24	123	75	125				
Molybdenum	59.0	1.0	58.5	0.3901	100	75	125				
Nickel	63.8	1.0	58.5	4.783	101	75	125				
Selenium	58.2	1.0	58.5	0	99	75	125				
Silver	34.8	1.0	29.25	0.2182	118	75	125				
Uranium	62.5	1.0	58.5	1.298	105	75	125				
Vanadium	71.1	1.0	58.5	13.24	99	75	125				

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 41896

Run ID :Run Order: **ICPMS205-H_180626A: 38** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-062AMSD** Method: **SW6020**

Analysis Date: **06/26/18 12:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **6/17/2018** Prep Method: **SW3050 B**

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4200	18	292.5	3181		75	125	3942	6.3	20	AE
Antimony	50.1	1.0	58.5	0	86	75	125	50.84	1.4	20	
Arsenic	66.4	1.0	58.5	12.04	93	75	125	69.15	4.1	20	
Barium	148	1.1	58.5	54.76	159	75	125	156.1	5.6	20	S
Beryllium	29.0	1.0	29.25	0	99	75	125	28.37	2.1	20	
Cadmium	31.0	1.0	29.25	0.5753	104	75	125	30.14	3.0	20	
Calcium	4740	510	2925	3642	37	75	125	3999	17	20	SE
Chromium	68.4	1.0	58.5	8.313	103	75	125	65.17	4.8	20	
Cobalt	63.5	1.1	58.5	3.385	103	75	125	61.95	2.5	20	
Lead	77.6	1.0	58.5	18.24	101	75	125	89.97	15	20	
Molybdenum	60.3	1.0	58.5	0.3901	102	75	125	59.03	2.2	20	
Nickel	65.8	1.0	58.5	4.783	104	75	125	63.77	3.1	20	
Selenium	59.0	1.0	58.5	0	101	75	125	58.2	1.3	20	
Silver	38.7	1.0	29.25	0.2182	132	75	125	34.83	11	20	S
Uranium	63.8	1.0	58.5	1.298	107	75	125	62.54	1.9	20	
Vanadium	71.2	1.0	58.5	13.24	99	75	125	71.08	0.2	20	

Associated samples: **H18060191-020A, H18060191-023A, H18060191-026A, H18060191-029A, H18060191-032A, H18060191-035A, H18060191-038A, H18060191-041A, H18060191-044A, H18060191-047A, H18060191-050A, H18060191-053A, H18060191-056A, H18060191-059A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: 42119

Run ID :Run Order: **ICPMS205-H_180705B: 25** SampType: **Method Blank** Lab ID: **MB-42119** Method: **E200.8**
Analysis Date: **07/05/18 15:47** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2018** Prep Method: **E200.2**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0002									
Nickel	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H18060191-009C**

Run ID :Run Order: **ICPMS205-H_180705B: 31** SampType: **Laboratory Control Sample** Lab ID: **LCS-42119** Method: **E200.8**
Analysis Date: **07/05/18 15:58** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2018** Prep Method: **E200.2**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.493	0.0050	0.5	0	**99**	85	115				
Nickel	0.491	0.0050	0.5	0	**98**	85	115				
Zinc	0.501	0.010	0.5	0	**100**	85	115				

Associated samples: **H18060191-009C**

Run ID :Run Order: **ICPMS205-H_180705B: 32** SampType: **Sample Matrix Spike** Lab ID: **H18060755-005CMS3** Method: **E200.8**
Analysis Date: **07/05/18 16:00** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2018** Prep Method: **E200.2**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.477	0.0050	0.5	0.002554	**95**	70	130				
Nickel	0.474	0.0050	0.5	0.001556	**94**	70	130				
Zinc	0.497	0.010	0.5	0.01508	**96**	70	130				

Associated samples: **H18060191-009C**

Run ID :Run Order: **ICPMS205-H_180705B: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060755-005CMSD3** Method: **E200.8**
Analysis Date: **07/05/18 16:02** Units: **mg/L** **Prep Info:** Prep Date: **7/3/2018** Prep Method: **E200.2**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.486	0.0050	0.5	0.002554	**97**	70	130	0.4766	**1.9**	20	
Nickel	0.486	0.0050	0.5	0.001556	**97**	70	130	0.4737	**2.5**	20	
Zinc	0.506	0.010	0.5	0.01508	**98**	70	130	0.4967	**1.8**	20	

Associated samples: **H18060191-009C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122535

Run ID :Run Order: **SUB-B302351: 86** SampType: **Method Blank** Lab ID: **MB-122535** Method: **E245.1**
Analysis Date: **06/19/18 15:24** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3E-05	2E-06									

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 87** SampType: **Laboratory Control Sample** Lab ID: **LCS-122535** Method: **E245.1**
Analysis Date: **06/19/18 15:27** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000230	0.00010	0.0002	0.0000318	99	85	115	0			

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 89** SampType: **Sample Matrix Spike** Lab ID: **H18060191-001B** Method: **E245.1**
Analysis Date: **06/19/18 15:42** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000217	0.00010	0.0002	0.00000276	107	70	130	0			

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-001B** Method: **E245.1**
Analysis Date: **06/19/18 15:45** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000220	0.00010	0.0002	0.00000276	109	70	130	0.000217	1.4	30	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 110** SampType: **Sample Matrix Spike** Lab ID: **H18060191-017B** Method: **E245.1**
Analysis Date: **06/19/18 16:42** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000218	0.00010	0.0002	0.00000353	107	70	130	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122535

Run ID :Run Order: **SUB-B302351: 110** SampType: **Sample Matrix Spike** Lab ID: **H18060191-017B** Method: **E245.1**

Analysis Date: **06/19/18 16:42** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 111** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-017B** Method: **E245.1**

Analysis Date: **06/19/18 16:45** Units: **mg/L** **Prep Info:** Prep Date: **6/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000216	0.00010	0.0002	0.00000353	**106**	70	130	0.000218	**0.9**	30	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122536

Run ID :Run Order: **SUB-B302511: 2** SampType: **Method Blank** Lab ID: **MB-122536** Method: **E245.1**
Analysis Date: **06/21/18 10:37** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-002C, H18060191-009C**

Run ID :Run Order: **SUB-B302511: 39** SampType: **Method Blank** Lab ID: **MB-122536** Method: **E245.1**
Analysis Date: **06/21/18 10:37** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-002C, H18060191-009C**

Run ID :Run Order: **SUB-B302511: 40** SampType: **Laboratory Control Sample** Lab ID: **LCS-122536** Method: **E245.1**
Analysis Date: **06/21/18 10:40** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000204	0.00010	0.0002	0	102	85	115	0			

Associated samples: **H18060191-002C, H18060191-009C**

Run ID :Run Order: **SUB-B302511: 42** SampType: **Sample Matrix Spike** Lab ID: **H18060191-001C** Method: **E245.1**
Analysis Date: **06/21/18 10:46** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000217	0.00010	0.0002	0.00000816	104	70	130	0			

Associated samples: **H18060191-002C, H18060191-009C**

Run ID :Run Order: **SUB-B302511: 43** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-001C** Method: **E245.1**
Analysis Date: **06/21/18 10:51** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000218	0.00010	0.0002	0.00000816	105	70	130	0.000217	0.5	30	

Associated samples: **H18060191-002C, H18060191-009C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122536

Run ID :Run Order: **SUB-B302511: 61** SampType: **Sample Matrix Spike** Lab ID: **B18061459-002BMS** Method: **E245.1**

Analysis Date: **06/21/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000209	0.00010	0.0002	0	105	70	130	0			

Associated samples: **H18060191-002C, H18060191-009C**

Run ID :Run Order: **SUB-B302511: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **B18061459-002BMSD** Method: **E245.1**

Analysis Date: **06/21/18 11:59** Units: **mg/L** **Prep Info:** Prep Date: **6/20/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000210	0.00010	0.0002	0	105	70	130	0.000209	0.5	30	

Associated samples: **H18060191-002C, H18060191-009C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122698

Run ID :Run Order: **SUB-B302511: 64** SampType: **Method Blank** Lab ID: **MB-122698** Method: **E245.1**
Analysis Date: **06/21/18 14:56** Units: **mg/L** **Prep Info:** Prep Date: **6/21/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-007B, H18060191-009B, H18060191-011B, H18060191-013B**

Run ID :Run Order: **SUB-B302511: 65** SampType: **Laboratory Control Sample** Lab ID: **LCS-122698** Method: **E245.1**
Analysis Date: **06/21/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: **6/21/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000207	0.00010	0.0002	0	**104**	85	115	0			

Associated samples: **H18060191-007B, H18060191-009B, H18060191-011B, H18060191-013B**

Run ID :Run Order: **SUB-B302511: 71** SampType: **Sample Matrix Spike** Lab ID: **H18060331-005B** Method: **E245.1**
Analysis Date: **06/21/18 15:34** Units: **mg/L** **Prep Info:** Prep Date: **6/21/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000204	0.00010	0.0002	0.0000175	**93**	70	130	0			

Associated samples: **H18060191-007B, H18060191-009B, H18060191-011B, H18060191-013B**

Run ID :Run Order: **SUB-B302511: 72** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060331-005B** Method: **E245.1**
Analysis Date: **06/21/18 15:37** Units: **mg/L** **Prep Info:** Prep Date: **6/21/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000201	0.00010	0.0002	0.0000175	**92**	70	130	0.000204	**1.5**	30	

Associated samples: **H18060191-007B, H18060191-009B, H18060191-011B, H18060191-013B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122719

Run ID :Run Order: **SUB-B302605: 2** SampType: **Method Blank** Lab ID: **MB-122719** Method: **E245.1**
Analysis Date: **06/22/18 10:59** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C**

Run ID :Run Order: **SUB-B302605: 3** SampType: **Laboratory Control Sample** Lab ID: **LCS-122719** Method: **E245.1**
Analysis Date: **06/22/18 11:02** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000212	0.00010	0.0002	0	106	85	115	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C**

Run ID :Run Order: **SUB-B302605: 12** SampType: **Sample Matrix Spike** Lab ID: **B18061454-017DMS** Method: **E245.1**
Analysis Date: **06/22/18 11:31** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000219	0.00010	0.0002	0.00000467	107	70	130	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C**

Run ID :Run Order: **SUB-B302605: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **B18061454-017DMSD** Method: **E245.1**
Analysis Date: **06/22/18 11:34** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000215	0.00010	0.0002	0.00000467	105	70	130	0.000219	1.8	30	

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C**

Run ID :Run Order: **SUB-B302605: 25** SampType: **Sample Matrix Spike** Lab ID: **H18060191-005C** Method: **E245.1**
Analysis Date: **06/22/18 12:18** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000221	0.00010	0.0002	0.0000109	105	70	130	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122719

Run ID :Run Order: **SUB-B302605: 26** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-005C** Method: **E245.1**

Analysis Date: **06/22/18 12:21** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000234	0.00010	0.0002	0.0000109	**112**	70	130	0.000221	**5.7**	30	

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122720

Run ID :Run Order: **SUB-B302605: 27** SampType: **Method Blank** Lab ID: **MB-122720** Method: **E245.1**
Analysis Date: **06/22/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C**

Run ID :Run Order: **SUB-B302605: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-122720** Method: **E245.1**
Analysis Date: **06/22/18 12:27** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000210	0.00010	0.0002	0	105	85	115	0			

Associated samples: **H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C**

Run ID :Run Order: **SUB-B302605: 32** SampType: **Sample Matrix Spike** Lab ID: **H18060191-006C** Method: **E245.1**
Analysis Date: **06/22/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000218	0.00010	0.0002	0.0000098	104	70	130	0			

Associated samples: **H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C**

Run ID :Run Order: **SUB-B302605: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-006C** Method: **E245.1**
Analysis Date: **06/22/18 12:45** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000225	0.00010	0.0002	0.0000098	108	70	130	0.000218	3.2	30	

Associated samples: **H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C**

Run ID :Run Order: **SUB-B302605: 51** SampType: **Sample Matrix Spike** Lab ID: **H18060191-016C** Method: **E245.1**
Analysis Date: **06/22/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000230	0.00010	0.0002	0.0000207	105	70	130	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122720

Run ID :Run Order: **SUB-B302605: 51** SampType: **Sample Matrix Spike** Lab ID: **H18060191-016C** Method: **E245.1**

Analysis Date: **06/22/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C**

Run ID :Run Order: **SUB-B302605: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-016C** Method: **E245.1**

Analysis Date: **06/22/18 13:44** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000259	0.00010	0.0002	0.0000207	**119**	70	130	0.00023	**12**	30	

Associated samples: **H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122722

Run ID :Run Order: **SUB-B302605: 53** SampType: **Method Blank** Lab ID: **MB-122722** Method: **E245.1**
Analysis Date: **06/22/18 13:47** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-017C**

Run ID :Run Order: **SUB-B302605: 54** SampType: **Laboratory Control Sample** Lab ID: **LCS-122722** Method: **E245.1**
Analysis Date: **06/22/18 13:50** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000212	0.00010	0.0002	0	**106**	85	115	0			

Associated samples: **H18060191-017C**

Run ID :Run Order: **SUB-B302605: 58** SampType: **Sample Matrix Spike** Lab ID: **B18061196-004CMS** Method: **E245.1**
Analysis Date: **06/22/18 14:08** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000213	0.00010	0.0002	0	**107**	70	130	0			

Associated samples: **H18060191-017C**

Run ID :Run Order: **SUB-B302605: 59** SampType: **Sample Matrix Spike Duplicate** Lab ID: **B18061196-004CMSD** Method: **E245.1**
Analysis Date: **06/22/18 14:11** Units: **mg/L** **Prep Info:** Prep Date: **6/22/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000218	0.00010	0.0002	0	**109**	70	130	0.000213	**2.3**	30	

Associated samples: **H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_122776

Run ID :Run Order: **SUB-B302721: 3** SampType: **Method Blank** Lab ID: **MB-122776** Method: **E245.1**
Analysis Date: **06/25/18 13:14** Units: **mg/L** **Prep Info:** Prep Date: **6/25/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	2E-06									

Associated samples: **H18060191-011C**

Run ID :Run Order: **SUB-B302721: 4** SampType: **Laboratory Control Sample** Lab ID: **LCS-122776** Method: **E245.1**
Analysis Date: **06/25/18 13:17** Units: **mg/L** **Prep Info:** Prep Date: **6/25/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000204	0.00010	0.0002	0	**102**	85	115	0			

Associated samples: **H18060191-011C**

Run ID :Run Order: **SUB-B302721: 5** SampType: **Sample Matrix Spike** Lab ID: **B18061993-002DMS** Method: **E245.1**
Analysis Date: **06/25/18 13:46** Units: **mg/L** **Prep Info:** Prep Date: **6/25/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000215	0.00010	0.0002	0.00000223	**106**	70	130	0			

Associated samples: **H18060191-011C**

Run ID :Run Order: **SUB-B302721: 6** SampType: **Sample Matrix Spike Duplicate** Lab ID: **B18061993-002DMSD** Method: **E245.1**
Analysis Date: **06/25/18 13:49** Units: **mg/L** **Prep Info:** Prep Date: **6/25/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000211	0.00010	0.0002	0.00000223	**104**	70	130	0.000215	**1.9**	30	

Associated samples: **H18060191-011C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_180619Z

Run ID :Run Order: **SUB-B302351: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/19/18 10:42** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000197	0.00010	0.0002	0	98	90	110	0			

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 2** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/19/18 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000100	0.00010	0.0001	0	100	95	105	0			

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 91** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**

Analysis Date: **06/19/18 15:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	90	110	0			

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **SUB-B302351: 102** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**

Analysis Date: **06/19/18 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000102	0.00010	0.0001	0	102	90	110	0			

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-008B, H18060191-010B, H18060191-012B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_180621Z

Run ID :Run Order: **SUB-B302511: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**
Analysis Date: **06/21/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000202	0.00010	0.0002	0	101	90	110	0			

Associated samples: **H18060191-002C, H18060191-007B, H18060191-009B, H18060191-009C, H18060191-011B, H18060191-013B**

Run ID :Run Order: **SUB-B302511: 53** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**
Analysis Date: **06/21/18 11:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.62E-05	0.00010	0.0001	0	96	90	110	0			

Associated samples: **H18060191-002C, H18060191-007B, H18060191-009B, H18060191-009C, H18060191-011B, H18060191-013B**

Run ID :Run Order: **SUB-B302511: 63** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**
Analysis Date: **06/21/18 14:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	90	110	0			

Associated samples: **H18060191-002C, H18060191-007B, H18060191-009B, H18060191-009C, H18060191-011B, H18060191-013B**

Run ID :Run Order: **SUB-B302511: 69** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**
Analysis Date: **06/21/18 15:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000102	0.00010	0.0001	0	102	90	110	0			

Associated samples: **H18060191-002C, H18060191-007B, H18060191-009B, H18060191-009C, H18060191-011B, H18060191-013B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_180622Z

Run ID :Run Order: **SUB-B302605: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/22/18 10:50** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000208	0.00010	0.0002	0	104	90	110	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **SUB-B302605: 17** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/22/18 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.97E-05	0.00010	0.0001	0	100	90	110	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **SUB-B302605: 29** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**

Analysis Date: **06/22/18 12:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000100	0.00010	0.0001	0	100	90	110	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_180625Z

Run ID :Run Order: **SUB-B302721: 1** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **06/25/18 13:04** Units: **mg/L** **Prep Info:** Prep Date: **4/18/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000207	0.00010	0.0002	0	**104**	90	110	0			

Associated samples: **H18060191-011C**

Run ID :Run Order: **SUB-B302721: 2** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **06/25/18 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	95	105	0			

Associated samples: **H18060191-011C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: B_R302605

Run ID :Run Order: **SUB-B302605: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV2** Method: **E245.1**

Analysis Date: **06/22/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000100	0.00010	0.0001	0	**100**	90	110	0			

Associated samples: **H18060191-001C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-010C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135427

Run ID :Run Order: **PHSC_101-H_180611A: 105** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**
Analysis Date: **06/11/18 14:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 106** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**
Analysis Date: **06/11/18 14:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	96	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 109** SampType: **Sample Duplicate** Lab ID: **H18060183-017ADUP** Method: **A2320 B**
Analysis Date: **06/11/18 15:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	42	4.0		0				41.4	0.2	10	
Bicarbonate as HCO3	50	4.0		0				49.9	0.2	10	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 149** SampType: **Sample Duplicate** Lab ID: **H18060191-003ADUP** Method: **A2320 B**
Analysis Date: **06/11/18 17:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	81	4.0		0				80.4	1.2	10	
Bicarbonate as HCO3	99	4.0		0				97.48	1.2	10	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 151** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**
Analysis Date: **06/11/18 17:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	2									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135427

Run ID :Run Order: **PHSC_101-H_180611A: 151** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **06/11/18 17:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 152** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **06/11/18 17:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	2.4	**97**	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 155** SampType: **Sample Duplicate** Lab ID: **H18060191-004ADUP** Method: **A2320 B**

Analysis Date: **06/11/18 19:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	84	4.0		0				83.35	**1.2**	10	
Bicarbonate as HCO3	100	4.0		0				101.1	**1.2**	10	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **PHSC_101-H_180611A: 183** SampType: **Sample Duplicate** Lab ID: **H18060191-017ADUP** Method: **A2320 B**

Analysis Date: **06/11/18 20:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	82	4.0		0				81.35	**1.0**	10	
Bicarbonate as HCO3	100	4.0		0				98.64	**1.0**	10	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135443

Run ID :Run Order: **FIA203-HE_180611B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **06/11/18 09:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 11** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **06/11/18 09:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.010	1	0	109	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 12** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **06/11/18 09:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.980	0.011	1	0.07426	91	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 107** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **06/11/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.485	0.010	0.5	0	97	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 121** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **06/11/18 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.480	0.010	0.5	0	96	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135443

Run ID :Run Order: **FIA203-HE_180611B: 121** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **06/11/18 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 123** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003DMS** Method: **E353.2**
Analysis Date: **06/11/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.53	0.011	1	0.5389	99	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 124** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003DMSD** Method: **E353.2**
Analysis Date: **06/11/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.51	0.011	1	0.5389	97	90	110	1.531	1.2	10	

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 135** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**
Analysis Date: **06/11/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.477	0.010	0.5	0	95	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180611B: 137** SampType: **Sample Matrix Spike** Lab ID: **H18060191-013DMS** Method: **E353.2**
Analysis Date: **06/11/18 11:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.14	0.011	1	0.1732	97	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135443

Run ID :Run Order: **FIA203-HE_180611B: 138** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-013DMSD** Method: **E353.2**

Analysis Date: **06/11/18 11:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.12	0.011	1	0.1732	**94**	90	110	1.142	**2.1**	10	

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135463

Run ID :Run Order: **FIA203-HE_180611C: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.480	0.10	0.5	0	96	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **FIA203-HE_180611C: 10** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.0118	0.10		0		0	0				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **FIA203-HE_180611C: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/11/18 15:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.471	0.10	0.5	0	94	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **FIA203-HE_180611C: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **06/11/18 16:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.467	0.10	0.5	0	93	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/11/18 13:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.795	0.10	0.8	0	99	95	105				
Calcium	39.5	1.0	40	0	99	95	105				
Magnesium	38.9	1.0	40	0	97	95	105				
Potassium	41.3	1.0	40	0	103	95	105				
Sodium	41.4	1.0	40	0	103	95	105				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/11/18 13:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	95	105				
Calcium	24.6	1.0	25	0	99	95	105				
Magnesium	24.0	1.0	25	0	96	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.8	1.0	25	0	103	95	105				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/11/18 13:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00635	0.10		0		0	0				
Calcium	458	1.0	500	0	92	80	120				
Magnesium	507	1.0	500	0	101	80	120				
Potassium	-0.0260	1.0		0		0	0				
Sodium	0.0206	1.0		0		0	0				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/11/18 13:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.940	0.10	1	0	94	80	120				
Calcium	459	1.0	500	0	92	80	120				
Magnesium	506	1.0	500	0	101	80	120				
Potassium	20.4	1.0	20	0	102	80	120				
Sodium	20.5	1.0	20	0	102	80	120				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 13** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **06/11/18 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 14** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **06/11/18 13:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.957	0.10	1	0	96	85	115				
Calcium	48.7	1.0	50	0	97	85	115				
Magnesium	48.2	1.0	50	0	96	85	115				
Potassium	50.2	1.0	50	0	100	85	115				
Sodium	50.1	1.0	50	0	100	85	115				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 90** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/11/18 20:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.60	0.10	2.5	0	104	90	110				
Calcium	25.4	1.0	25	0	102	90	110				
Magnesium	25.3	1.0	25	0	101	90	110				
Potassium	26.3	1.0	25	0	105	90	110				
Sodium	26.4	1.0	25	0	105	90	110				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 97** SampType: **Sample Matrix Spike** Lab ID: **H18060190-001BMS2** Method: **E200.7**

Analysis Date: **06/11/18 20:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.050	1	0.03199	97	70	130				
Calcium	73.6	1.0	50	21.6	104	70	130				
Magnesium	58.3	1.0	50	5.2	106	70	130				
Potassium	56.6	1.0	50	2.242	109	70	130				
Sodium	62.6	1.0	50	8.142	109	70	130				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 98** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060190-001BMSD2** Method: **E200.7**

Analysis Date: **06/11/18 20:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.03199	98	70	130	1.001	1.1	20	
Calcium	73.5	1.0	50	21.6	104	70	130	73.56	0.0	20	
Magnesium	57.9	1.0	50	5.2	105	70	130	58.3	0.6	20	
Potassium	55.3	1.0	50	2.242	106	70	130	56.63	2.4	20	
Sodium	61.3	1.0	50	8.142	106	70	130	62.64	2.2	20	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 109** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/11/18 21:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.50	0.10	2.5	0	100	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Magnesium	24.1	1.0	25	0	96	90	110				
Potassium	24.0	1.0	25	0	96	90	110				
Sodium	23.9	1.0	25	0	96	90	110				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 120** SampType: **Sample Matrix Spike** Lab ID: **H18060191-008BMS2** Method: **E200.7**

Analysis Date: **06/11/18 22:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.987	0.050	1	0.03352	95	70	130				
Calcium	85.3	1.0	50	33.78	103	70	130				
Magnesium	59.2	1.0	50	7.505	103	70	130				
Potassium	58.0	1.0	50	3.438	109	70	130				
Sodium	72.5	1.0	50	18.06	109	70	130				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 121** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/11/18 22:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Magnesium	24.3	1.0	25	0	97	90	110				
Potassium	24.3	1.0	25	0	97	90	110				
Sodium	24.2	1.0	25	0	97	90	110				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135476

Run ID :Run Order: **ICP2-HE_180611C: 123** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-008BMSD2** Method: **E200.7**

Analysis Date: **06/11/18 22:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.992	0.050	1	0.03352	96	70	130	0.987	0.6	20	
Calcium	87.6	1.0	50	33.78	108	70	130	85.34	2.6	20	
Magnesium	60.9	1.0	50	7.505	107	70	130	59.18	2.8	20	
Potassium	55.8	1.0	50	3.438	105	70	130	57.98	3.8	20	
Sodium	69.5	1.0	50	18.06	103	70	130	72.5	4.3	20	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 136** SampType: **Sample Matrix Spike** Lab ID: **H18060191-017BMS2** Method: **E200.7**

Analysis Date: **06/11/18 23:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.952	0.050	1	0.01817	93	70	130				
Calcium	86.5	1.0	50	31.12	111	70	130				
Magnesium	61.4	1.0	50	6.108	111	70	130				
Potassium	55.5	1.0	50	2.452	106	70	130				
Sodium	63.7	1.0	50	11.65	104	70	130				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICP2-HE_180611C: 137** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-017BMSD2** Method: **E200.7**

Analysis Date: **06/11/18 23:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.974	0.050	1	0.01817	96	70	130	0.9523	2.3	20	
Calcium	83.4	1.0	50	31.12	105	70	130	86.54	3.7	20	
Magnesium	58.4	1.0	50	6.108	105	70	130	61.4	5.0	20	
Potassium	55.9	1.0	50	2.452	107	70	130	55.55	0.6	20	
Sodium	64.8	1.0	50	11.65	106	70	130	63.72	1.7	20	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135509

Run ID :Run Order: **IC METROHM_180611B: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **06/11/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **06/11/18 12:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	400	1.0	400	0	100	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **06/11/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.2	1.0	25	0	101	90	110				
Sulfate	98.8	1.0	100	0	99	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **06/12/18 08:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48.9	1.0	50	0	98	90	110				
Sulfate	193	1.0	200	0	97	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135509

Run ID :Run Order: **IC METROHM_180611B: 59** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003AMS** Method: **E300.0**

Analysis Date: **06/12/18 11:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	39.4	1.0	25	15.97	94	90	110				
Sulfate	126	1.0	100	33.59	93	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003AMSD** Method: **E300.0**

Analysis Date: **06/12/18 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	39.2	1.0	25	15.97	93	90	110	39.44	0.7	20	
Sulfate	125	1.0	100	33.59	91	90	110	126.1	0.9	20	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 61** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **06/12/18 11:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.3	1.0	50	0	95	90	110				
Sulfate	187	1.0	200	0	93	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 73** SampType: **Sample Matrix Spike** Lab ID: **H18060191-013AMS** Method: **E300.0**

Analysis Date: **06/12/18 15:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	40.1	1.0	25	16.96	93	90	110				
Sulfate	129	1.0	100	37.66	91	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135509

Run ID :Run Order: **IC METROHM_180611B: 74** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-013AMSD** Method: **E300.0**

Analysis Date: **06/12/18 15:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	40.1	1.0	25	16.96	92	90	110	40.12	0.1	20	
Sulfate	129	1.0	100	37.66	91	90	110	128.8	0.1	20	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 75** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **06/12/18 15:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.5	1.0	50	0	95	90	110				
Sulfate	188	1.0	200	0	94	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 81** SampType: **Sample Matrix Spike** Lab ID: **H18060191-017AMS** Method: **E300.0**

Analysis Date: **06/12/18 17:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.2	1.0	25	9.083	93	90	110				
Sulfate	122	1.0	100	30.28	91	90	110				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **IC METROHM_180611B: 82** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-017AMSD** Method: **E300.0**

Analysis Date: **06/12/18 17:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.1	1.0	25	9.083	92	90	110	32.21	0.3	20	
Sulfate	121	1.0	100	30.28	91	90	110	121.7	0.5	20	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135516

Run ID :Run Order: **FIA203-HE_180613A: 7** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **06/13/18 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **06/13/18 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.1	0.50	10.3	0	98	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **06/13/18 10:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.524	0.050	0.5	0	105	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **06/13/18 10:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.01	0.055	1	0	101	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 12** SampType: **Sample Matrix Spike** Lab ID: **H18060193-001CMS** Method: **E350.1**
Analysis Date: **06/13/18 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.928	0.055	1	0	93	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135516

Run ID :Run Order: **FIA203-HE_180613A: 12** SampType: **Sample Matrix Spike** Lab ID: **H18060193-001CMS** Method: **E350.1**

Analysis Date: **06/13/18 10:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060193-001CMSD** Method: **E350.1**

Analysis Date: **06/13/18 10:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.912	0.055	1	0	91	80	120	0.9276	1.7	10	

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **06/13/18 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.519	0.050	0.5	0	104	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 26** SampType: **Sample Matrix Spike** Lab ID: **H18060191-007DMS** Method: **E350.1**

Analysis Date: **06/13/18 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.868	0.055	1	0	87	80	120				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-007DMSD** Method: **E350.1**

Analysis Date: **06/13/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.855	0.055	1	0	86	80	120	0.868	1.5	10	

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135516

Run ID :Run Order: **FIA203-HE_180613A: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **06/13/18 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.519	0.050	0.5	0	**104**	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 40** SampType: **Sample Matrix Spike** Lab ID: **H18060191-017DMS** Method: **E350.1**

Analysis Date: **06/13/18 10:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.881	0.055	1	0	**88**	80	120				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA203-HE_180613A: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-017DMSD** Method: **E350.1**

Analysis Date: **06/13/18 10:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.853	0.055	1	0	**85**	80	120	0.8813	**3.3**	10	

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D, H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R135521

Run ID :Run Order: **ICPMS205-H_180613A: 11** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/13/18 09:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0635	0.050	0.06	0	106	90	110				
Arsenic	0.0612	0.0050	0.06	0	102	90	110				
Barium	0.0624	0.10	0.06	0	104	90	110				
Beryllium	0.0312	0.0010	0.03	0	104	90	110				
Cadmium	0.0315	0.0010	0.03	0	105	90	110				
Chromium	0.0612	0.010	0.06	0	102	90	110				
Cobalt	0.0626	0.010	0.06	0	104	90	110				
Copper	0.0619	0.010	0.06	0	103	90	110				
Iron	0.304	0.020	0.3	0	101	90	110				
Lead	0.0616	0.010	0.06	0	103	90	110				
Manganese	0.313	0.010	0.3	0	104	90	110				
Molybdenum	0.0621	0.0050	0.06	0	104	90	110				
Nickel	0.0624	0.010	0.06	0	104	90	110				
Selenium	0.0619	0.0050	0.06	0	103	90	110				
Silver	0.0311	0.0050	0.03	0	104	90	110				
Uranium	0.0580	0.0010	0.06	0	97	90	110				
Vanadium	0.0613	0.10	0.06	0	102	90	110				
Zinc	0.0628	0.010	0.06	0	105	90	110				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180613A: 12** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/13/18 09:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.5	0.10	40	0	111	70	130				
Antimony	0.000409	0.050		0							
Arsenic	6.84E-05	0.0050		0							
Barium	0.000202	0.10		0							
Beryllium	4.95E-05	0.0010		0							
Cadmium	0.000128	0.0010		0							
Chromium	0.00127	0.010		0							
Cobalt	-2.58E-05	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R135521

Run ID :Run Order: **ICPMS205-H_180613A: 12** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/13/18 09:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000319	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	0.000271	0.010		0							
Manganese	0.000251	0.010		0							
Molybdenum	0.900	0.0050	0.8	0	113	70	130				
Nickel	0.000135	0.010		0							
Selenium	9.44E-05	0.0050		0							
Silver	0.000107	0.0050		0							
Uranium	1.33E-05	0.0010		0							
Vanadium	3.62E-05	0.10		0							
Zinc	0.000580	0.010		0							

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICPMS205-H_180613A: 13** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/13/18 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	43.2	0.10	40	0	108	70	130				
Antimony	0.000291	0.050		0		0	0				
Arsenic	0.0108	0.0050	0.01	0	108	70	130				
Barium	6.98E-05	0.10		0		0	0				
Beryllium	-3.51E-05	0.0010		0		0	0				
Cadmium	0.0108	0.0010	0.01	0	108	70	130				
Chromium	0.0221	0.010	0.02	0	110	70	130				
Cobalt	0.0210	0.010	0.02	0	105	70	130				
Copper	0.0209	0.010	0.02	0	105	70	130				
Iron	101	0.020	100	0	101	70	130				
Lead	0.000241	0.010		0		0	0				
Manganese	0.0214	0.010	0.02	0	107	70	130				
Molybdenum	0.883	0.0050	0.8	0	110	70	130				
Nickel	0.0211	0.010	0.02	0	105	70	130				
Selenium	0.0104	0.0050	0.01	0	104	70	130				
Silver	0.0210	0.0050	0.02	0	105	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135521

Run ID :Run Order: **ICPMS205-H_180613A: 13** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/13/18 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.65E-06	0.0010		0		0	0				
Vanadium	0.0209	0.10	0.02	0	104	70	130				
Zinc	0.0106	0.010	0.01	0	106	70	130				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135530

Run ID :Run Order: **FIA202-HE_180613B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **06/13/18 12:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.247	0.010	0.25	0	99	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Run ID :Run Order: **FIA202-HE_180613B: 13** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **06/13/18 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00199	0.010		0		0	0				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Run ID :Run Order: **FIA202-HE_180613B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/13/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0937	0.010	0.1	0	94	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Run ID :Run Order: **FIA202-HE_180613B: 45** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/13/18 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0944	0.010	0.1	0	94	90	110				

Associated samples: **H18060191-001D, H18060191-002D, H18060191-003D, H18060191-004D, H18060191-005D, H18060191-006D, H18060191-007D, H18060191-008D, H18060191-009D, H18060191-010D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135551

Run ID :Run Order: **ICP2-HE_180613B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **06/13/18 11:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.06	0.10	4	0	**101**	95	105				
Boron	0.820	0.10	0.8	0	**103**	95	105				
Calcium	40.4	1.0	40	0	**101**	95	105				
Iron	4.05	0.020	4	0	**101**	95	105				
Magnesium	39.6	1.0	40	0	**99**	95	105				
Potassium	41.0	1.0	40	0	**102**	95	105				
Sodium	41.0	1.0	40	0	**102**	95	105				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **06/13/18 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.10	2.5	0	**102**	95	105				
Boron	2.48	0.10	2.5	0	**99**	95	105				
Calcium	24.8	1.0	25	0	**99**	95	105				
Iron	2.47	0.020	2.5	0	**99**	95	105				
Magnesium	24.1	1.0	25	0	**96**	95	105				
Potassium	25.0	1.0	25	0	**100**	95	105				
Sodium	25.2	1.0	25	0	**101**	95	105				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/13/18 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	521	0.10	500	0	**104**	80	120				
Boron	0.00335	0.10		0		0	0				
Calcium	478	1.0	500	0	**96**	80	120				
Iron	186	0.020	200	0	**93**	80	120				
Magnesium	524	1.0	500	0	**105**	80	120				
Potassium	-0.0185	1.0		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135551

Run ID :Run Order: **ICP2-HE_180613B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **06/13/18 11:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.0154	1.0		0		0	0				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **06/13/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	532	0.10	500	0	**106**	80	120				
Boron	0.961	0.10	1	0	**96**	80	120				
Calcium	476	1.0	500	0	**95**	80	120				
Iron	185	0.020	200	0	**93**	80	120				
Magnesium	522	1.0	500	0	**104**	80	120				
Potassium	20.6	1.0	20	0	**103**	80	120				
Sodium	20.7	1.0	20	0	**103**	80	120				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 207** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.10	2.5	0	**103**	90	110				
Boron	2.48	0.10	2.5	0	**99**	90	110				
Calcium	25.3	1.0	25	0	**101**	90	110				
Iron	2.52	0.020	2.5	0	**101**	90	110				
Magnesium	24.4	1.0	25	0	**98**	90	110				
Potassium	27.0	1.0	25	0	**108**	90	110				
Sodium	27.1	1.0	25	0	**108**	90	110				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135551

Run ID :Run Order: **ICP2-HE_180613B: 219** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.10	2.5	0	103	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Iron	2.48	0.020	2.5	0	99	90	110				
Magnesium	23.8	1.0	25	0	95	90	110				
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.7	1.0	25	0	103	90	110				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 231** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 12:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.10	2.5	0	103	90	110				
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Iron	2.48	0.020	2.5	0	99	90	110				
Magnesium	23.7	1.0	25	0	95	90	110				
Potassium	26.7	1.0	25	0	107	90	110				
Sodium	26.9	1.0	25	0	108	90	110				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Run ID :Run Order: **ICP2-HE_180613B: 243** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 12:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	25.1	1.0	25	0	100	90	110				
Iron	2.49	0.020	2.5	0	99	90	110				
Magnesium	24.1	1.0	25	0	96	90	110				
Potassium	25.9	1.0	25	0	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135551

Run ID :Run Order: **ICP2-HE_180613B: 243** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **06/14/18 12:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	25.9	1.0	25	0	**104**	90	110				

Associated samples: **H18060191-001C, H18060191-002C, H18060191-003C, H18060191-004C, H18060191-005C, H18060191-006C, H18060191-007C, H18060191-008C, H18060191-009C, H18060191-010C, H18060191-011C, H18060191-012C, H18060191-013C, H18060191-014C, H18060191-015C, H18060191-016C, H18060191-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135574

Run ID :Run Order: **FIA202-HE_180614C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **06/14/18 13:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.241	0.010	0.25	0	97	90	110				

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA202-HE_180614C: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **06/14/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0939	0.010	0.1	0	94	90	110				

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Run ID :Run Order: **FIA202-HE_180614C: 11** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **06/14/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000210	0.010		0		0	0				

Associated samples: **H18060191-011D, H18060191-012D, H18060191-013D, H18060191-014D, H18060191-015D, H18060191-016D, H18060191-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/15/18 11:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.294	0.10	0.3	0	**98**	90	110				
Antimony	0.0610	0.050	0.06	0	**102**	90	110				
Arsenic	0.0597	0.0050	0.06	0	**100**	90	110				
Barium	0.0600	0.10	0.06	0	**100**	90	110				
Beryllium	0.0301	0.0010	0.03	0	**100**	90	110				
Cadmium	0.0301	0.0010	0.03	0	**100**	90	110				
Chromium	0.0598	0.010	0.06	0	**100**	90	110				
Cobalt	0.0601	0.010	0.06	0	**100**	90	110				
Copper	0.0603	0.010	0.06	0	**100**	90	110				
Iron	0.303	0.020	0.3	0	**101**	90	110				
Lead	0.0586	0.010	0.06	0	**98**	90	110				
Manganese	0.302	0.010	0.3	0	**101**	90	110				
Molybdenum	0.0599	0.0050	0.06	0	**100**	90	110				
Nickel	0.0607	0.010	0.06	0	**101**	90	110				
Selenium	0.0597	0.0050	0.06	0	**100**	90	110				
Silver	0.0298	0.0050	0.03	0	**99**	90	110				
Uranium	0.0554	0.0010	0.06	0	**92**	90	110				
Vanadium	0.0596	0.10	0.06	0	**99**	90	110				
Zinc	0.0610	0.010	0.06	0	**102**	90	110				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICPMS205-H_180615A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/15/18 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	47.3	0.10	40	0	**118**	70	130				
Antimony	0.000432	0.050		0							
Arsenic	8.23E-05	0.0050		0							
Barium	0.000218	0.10		0							
Beryllium	1.76E-05	0.0010		0							
Cadmium	0.000172	0.0010		0							
Chromium	0.00140	0.010		0							
Cobalt	2.22E-05	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/15/18 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000311	0.010		0							
Iron	115	0.020	100	0	115	70	130				
Lead	0.000149	0.010		0							
Manganese	0.000250	0.010		0							
Molybdenum	0.994	0.0050	0.8	0	124	70	130				
Nickel	0.000160	0.010		0							
Selenium	7.72E-05	0.0050		0							
Silver	0.000138	0.0050		0							
Uranium	1.40E-05	0.0010		0							
Vanadium	3.35E-05	0.10		0							
Zinc	0.000701	0.010		0							

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICPMS205-H_180615A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/15/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.1	0.10	40	0	113	70	130				
Antimony	0.000280	0.050		0		0	0				
Arsenic	0.0116	0.0050	0.01	0	116	70	130				
Barium	7.09E-05	0.10		0		0	0				
Beryllium	5.75E-05	0.0010		0		0	0				
Cadmium	0.0113	0.0010	0.01	0	113	70	130				
Chromium	0.0240	0.010	0.02	0	120	70	130				
Cobalt	0.0224	0.010	0.02	0	112	70	130				
Copper	0.0225	0.010	0.02	0	113	70	130				
Iron	113	0.020	100	0	113	70	130				
Lead	0.000131	0.010		0		0	0				
Manganese	0.0227	0.010	0.02	0	114	70	130				
Molybdenum	0.935	0.0050	0.8	0	117	70	130				
Nickel	0.0226	0.010	0.02	0	113	70	130				
Selenium	0.0110	0.0050	0.01	0	110	70	130				
Silver	0.0220	0.0050	0.02	0	110	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/15/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	6.96E-06	0.0010		0		0	0				
Vanadium	0.0227	0.10	0.02	0	114	70	130				
Zinc	0.0116	0.010	0.01	0	116	70	130				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICPMS205-H_180615A: 20** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/15/18 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	4E-05	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 21** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/15/18 11:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.10	0.05	0	99	85	115				
Antimony	0.0508	0.050	0.05	0	102	85	115				
Arsenic	0.0492	0.0050	0.05	0	99	85	115				
Barium	0.0484	0.10	0.05	0	97	85	115				
Beryllium	0.0476	0.0010	0.05	0	95	85	115				
Cadmium	0.0488	0.0010	0.05	0	98	85	115				
Chromium	0.0493	0.010	0.05	0	99	85	115				
Cobalt	0.0491	0.010	0.05	0	98	85	115				
Copper	0.0495	0.010	0.05	0	99	85	115				
Iron	0.149	0.020	0.15	0	100	85	115				
Lead	0.0477	0.010	0.05	0	95	85	115				
Manganese	0.0493	0.010	0.05	0	99	85	115				
Molybdenum	0.0482	0.0050	0.05	0	96	85	115				
Nickel	0.0489	0.010	0.05	0	98	85	115				
Selenium	0.0488	0.0050	0.05	0.00004172	97	85	115				
Silver	0.0194	0.0050	0.02	0	97	85	115				
Uranium	0.0467	0.0010	0.05	0	93	85	115				
Vanadium	0.0490	0.10	0.05	0	98	85	115				
Zinc	0.0498	0.010	0.05	0	100	85	115				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICPMS205-H_180615A: 109** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003BMS** Method: **E200.8**

Analysis Date: **06/15/18 15:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0629	0.030	0.05	0.01232	101	70	130				
Antimony	0.0533	0.0010	0.05	0.0004381	106	70	130				
Arsenic	0.0593	0.0010	0.05	0.009202	100	70	130				
Barium	0.0807	0.050	0.05	0.03067	100	70	130				
Beryllium	0.0504	0.0010	0.05	0	101	70	130				
Cadmium	0.0506	0.0010	0.05	0.00004346	101	70	130				
Chromium	0.0495	0.0050	0.05	0	99	70	130				
Cobalt	0.0492	0.0050	0.05	0.0001086	98	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 109** SampType: **Sample Matrix Spike** Lab ID: **H18060191-003BMS** Method: **E200.8**

Analysis Date: **06/15/18 15:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0575	0.0050	0.05	0.008485	98	70	130				
Iron	0.467	0.020	0.15	0.322	97	70	130				
Lead	0.0502	0.0010	0.05	0.000364	100	70	130				
Manganese	0.100	0.0010	0.05	0.0512	98	70	130				
Molybdenum	0.0546	0.0010	0.05	0.00551	98	70	130				
Nickel	0.0495	0.0050	0.05	0.0006184	98	70	130				
Selenium	0.0508	0.0010	0.05	0.0001458	101	70	130				
Silver	0.0200	0.0010	0.02	0	100	70	130				
Uranium	0.0510	0.00030	0.05	0.001921	98	70	130				
Vanadium	0.0509	0.010	0.05	0.001949	98	70	130				
Zinc	0.0716	0.010	0.05	0.02119	101	70	130				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICPMS205-H_180615A: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003BMSD** Method: **E200.8**

Analysis Date: **06/15/18 15:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0619	0.030	0.05	0.01232	99	70	130	0.06292	1.7	20	
Antimony	0.0529	0.0010	0.05	0.0004381	105	70	130	0.05334	0.8	20	
Arsenic	0.0590	0.0010	0.05	0.009202	100	70	130	0.05928	0.5	20	
Barium	0.0799	0.050	0.05	0.03067	98	70	130	0.0807	1.0	20	
Beryllium	0.0510	0.0010	0.05	0	102	70	130	0.05039	1.2	20	
Cadmium	0.0502	0.0010	0.05	0.00004346	100	70	130	0.05059	0.7	20	
Chromium	0.0489	0.0050	0.05	0	98	70	130	0.04955	1.3	20	
Cobalt	0.0491	0.0050	0.05	0.0001086	98	70	130	0.0492	0.2	20	
Copper	0.0576	0.0050	0.05	0.008485	98	70	130	0.05753	0.2	20	
Iron	0.465	0.020	0.15	0.322	95	70	130	0.4668	0.4	20	
Lead	0.0500	0.0010	0.05	0.000364	99	70	130	0.05023	0.6	20	
Manganese	0.0992	0.0010	0.05	0.0512	96	70	130	0.1	0.8	20	
Molybdenum	0.0542	0.0010	0.05	0.00551	97	70	130	0.05463	0.7	20	
Nickel	0.0496	0.0050	0.05	0.0006184	98	70	130	0.04955	0.1	20	
Selenium	0.0506	0.0010	0.05	0.0001458	101	70	130	0.05079	0.4	20	
Silver	0.0197	0.0010	0.02	0	99	70	130	0.01996	1.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 110** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-003BMSD** Method: **E200.8**

Analysis Date: **06/15/18 15:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0506	0.00030	0.05	0.001921	**97**	70	130	0.05096	**0.7**	20	
Vanadium	0.0506	0.010	0.05	0.001949	**97**	70	130	0.05091	**0.5**	20	
Zinc	0.0712	0.010	0.05	0.02119	**100**	70	130	0.07155	**0.5**	20	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Run ID :Run Order: **ICPMS205-H_180615A: 129** SampType: **Sample Matrix Spike** Lab ID: **H18060191-013BMS** Method: **E200.8**

Analysis Date: **06/15/18 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0660	0.030	0.05	0.01676	**98**	70	130				
Antimony	0.0532	0.0010	0.05	0.0004645	**106**	70	130				
Arsenic	0.0618	0.0010	0.05	0.01217	**99**	70	130				
Barium	0.0780	0.050	0.05	0.02841	**99**	70	130				
Beryllium	0.0490	0.0010	0.05	0	**98**	70	130				
Cadmium	0.0509	0.0010	0.05	0.0001297	**102**	70	130				
Chromium	0.0494	0.0050	0.05	0	**99**	70	130				
Cobalt	0.0493	0.0050	0.05	0.0001274	**98**	70	130				
Copper	0.0680	0.0050	0.05	0.01873	**99**	70	130				
Iron	0.336	0.020	0.15	0.1874	**99**	70	130				
Lead	0.0503	0.0010	0.05	0.0004468	**100**	70	130				
Manganese	0.141	0.0010	0.05	0.09227	**98**	70	130				
Molybdenum	0.0530	0.0010	0.05	0.004197	**98**	70	130				
Nickel	0.0500	0.0050	0.05	0.0009044	**98**	70	130				
Selenium	0.0501	0.0010	0.05	0.0002012	**100**	70	130				
Silver	0.0199	0.0010	0.02	0	**99**	70	130				
Uranium	0.0513	0.00030	0.05	0.002149	**98**	70	130				
Vanadium	0.0511	0.010	0.05	0.002224	**98**	70	130				
Zinc	0.0871	0.010	0.05	0.03701	**100**	70	130				

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135601

Run ID :Run Order: **ICPMS205-H_180615A: 130** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-013BMSD** Method: **E200.8**

Analysis Date: **06/15/18 15:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0675	0.030	0.05	0.01676	101	70	130	0.066	2.3	20	
Antimony	0.0530	0.0010	0.05	0.0004645	105	70	130	0.05324	0.5	20	
Arsenic	0.0622	0.0010	0.05	0.01217	100	70	130	0.06184	0.6	20	
Barium	0.0776	0.050	0.05	0.02841	98	70	130	0.07804	0.5	20	
Beryllium	0.0479	0.0010	0.05	0	96	70	130	0.04898	2.2	20	
Cadmium	0.0502	0.0010	0.05	0.0001297	100	70	130	0.05091	1.3	20	
Chromium	0.0489	0.0050	0.05	0	98	70	130	0.04945	1.1	20	
Cobalt	0.0492	0.0050	0.05	0.0001274	98	70	130	0.04928	0.1	20	
Copper	0.0686	0.0050	0.05	0.01873	100	70	130	0.068	0.9	20	
Iron	0.333	0.020	0.15	0.1874	97	70	130	0.3357	0.9	20	
Lead	0.0509	0.0010	0.05	0.0004468	101	70	130	0.05034	1.1	20	
Manganese	0.139	0.0010	0.05	0.09227	93	70	130	0.1413	1.6	20	
Molybdenum	0.0518	0.0010	0.05	0.004197	95	70	130	0.05305	2.3	20	
Nickel	0.0498	0.0050	0.05	0.0009044	98	70	130	0.05004	0.4	20	
Selenium	0.0502	0.0010	0.05	0.0002012	100	70	130	0.05014	0.1	20	
Silver	0.0196	0.0010	0.02	0	98	70	130	0.01986	1.3	20	
Uranium	0.0514	0.00030	0.05	0.002149	99	70	130	0.05135	0.1	20	
Vanadium	0.0507	0.010	0.05	0.002224	97	70	130	0.05112	0.8	20	
Zinc	0.0870	0.010	0.05	0.03701	100	70	130	0.08714	0.2	20	

Associated samples: **H18060191-001B, H18060191-002B, H18060191-003B, H18060191-004B, H18060191-005B, H18060191-006B, H18060191-007B, H18060191-008B, H18060191-009B, H18060191-010B, H18060191-011B, H18060191-012B, H18060191-013B, H18060191-014B, H18060191-015B, H18060191-016B, H18060191-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135720

Run ID :Run Order: **ICPMS205-H_180619C: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/19/18 13:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.299	0.10	0.3	0	100	90	110				
Antimony	0.0612	0.050	0.06	0	102	90	110				
Arsenic	0.0598	0.0050	0.06	0	100	90	110				
Barium	0.0605	0.10	0.06	0	101	90	110				
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Copper	0.0603	0.010	0.06	0	100	90	110				
Iron	0.296	0.020	0.3	0	99	90	110				
Manganese	0.303	0.010	0.3	0	101	90	110				
Uranium	0.0566	0.0010	0.06	0	94	90	110				
Zinc	0.0611	0.010	0.06	0	102	90	110				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/19/18 13:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.6	0.10	40	0	106	70	130				
Antimony	0.000354	0.050		0							
Arsenic	7.61E-05	0.0050		0							
Barium	3.36E-05	0.10		0							
Cadmium	0.000134	0.0010		0							
Copper	9.25E-05	0.010		0							
Iron	99.9	0.020	100	0	100	70	130				
Manganese	0.000209	0.010		0							
Uranium	1.44E-05	0.0010		0							
Zinc	0.000483	0.010		0							

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/19/18 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.3	0.10	40	0	106	70	130				
Antimony	0.000257	0.050		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135720

Run ID :Run Order: **ICPMS205-H_180619C: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/19/18 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0104	0.0050	0.01	0	104	70	130				
Barium	3.69E-05	0.10		0		0	0				
Cadmium	0.0103	0.0010	0.01	0	103	70	130				
Copper	0.0199	0.010	0.02	0	100	70	130				
Iron	101	0.020	100	0	101	70	130				
Manganese	0.0206	0.010	0.02	0	103	70	130				
Uranium	5.22E-06	0.0010		0		0	0				
Zinc	0.0104	0.010	0.01	0	104	70	130				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **06/19/18 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Cadmium	ND	3E-05									
Copper	ND	0.0001									
Iron	ND	0.002									
Manganese	ND	0.0003									
Uranium	ND	1E-05									
Zinc	ND	0.0003									

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/19/18 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0524	0.10	0.05	0	105	85	115				
Antimony	0.0514	0.050	0.05	0	103	85	115				
Arsenic	0.0496	0.0050	0.05	0	99	85	115				
Barium	0.0488	0.10	0.05	0	98	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135720

Run ID :Run Order: **ICPMS205-H_180619C: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **06/19/18 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0493	0.0010	0.05	0	99	85	115				
Copper	0.0498	0.010	0.05	0	100	85	115				
Iron	0.147	0.020	0.15	0	98	85	115				
Manganese	0.0493	0.010	0.05	0	99	85	115				
Uranium	0.0496	0.0010	0.05	0	99	85	115				
Zinc	0.0504	0.010	0.05	0	101	85	115				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 26** SampType: **Sample Matrix Spike** Lab ID: **H18060223-001BMS** Method: **E200.8**

Analysis Date: **06/19/18 13:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0648	0.030	0.05	0.01481	100	70	130				
Antimony	0.0518	0.0010	0.05	0	104	70	130				
Arsenic	0.0495	0.0010	0.05	0.000132	99	70	130				
Barium	0.0753	0.050	0.05	0.02678	97	70	130				
Cadmium	0.0497	0.0010	0.05	0	99	70	130				
Copper	0.103	0.0050	0.05	0.05425	97	70	130				
Iron	0.162	0.020	0.15	0.01708	96	70	130				
Manganese	0.0552	0.0010	0.05	0.006018	98	70	130				
Uranium	0.0498	0.00030	0.05	0.00005838	100	70	130				
Zinc	0.101	0.010	0.05	0.05046	101	70	130				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060223-001BMSD** Method: **E200.8**

Analysis Date: **06/19/18 13:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0642	0.030	0.05	0.01481	99	70	130	0.06478	0.8	20	
Antimony	0.0524	0.0010	0.05	0	105	70	130	0.05179	1.2	20	
Arsenic	0.0486	0.0010	0.05	0.000132	97	70	130	0.04949	1.8	20	
Barium	0.0767	0.050	0.05	0.02678	100	70	130	0.0753	1.9	20	
Cadmium	0.0503	0.0010	0.05	0	101	70	130	0.04967	1.2	20	
Copper	0.102	0.0050	0.05	0.05425	96	70	130	0.1026	0.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135720

Run ID :Run Order: **ICPMS205-H_180619C: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060223-001BMSD** Method: **E200.8**

Analysis Date: **06/19/18 13:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.160	0.020	0.15	0.01708	95	70	130	0.1616	0.9	20	
Manganese	0.0551	0.0010	0.05	0.006018	98	70	130	0.0552	0.3	20	
Uranium	0.0495	0.00030	0.05	0.00005838	99	70	130	0.04981	0.6	20	
Zinc	0.102	0.010	0.05	0.05046	102	70	130	0.1012	0.4	20	

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 40** SampType: **Sample Matrix Spike** Lab ID: **H18060191-002BMS** Method: **E200.8**

Analysis Date: **06/19/18 14:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.030	0.05	0	102	70	130				
Antimony	0.0522	0.0010	0.05	0	104	70	130				
Arsenic	0.0487	0.0010	0.05	0	97	70	130				
Barium	0.0521	0.050	0.05	0.002228	100	70	130				
Cadmium	0.0502	0.0010	0.05	0	100	70	130				
Copper	0.0491	0.0050	0.05	0	98	70	130				
Iron	0.144	0.020	0.15	0	96	70	130				
Manganese	0.0485	0.0010	0.05	0	97	70	130				
Uranium	0.0496	0.00030	0.05	0	99	70	130				
Zinc	0.0612	0.010	0.05	0.01196	98	70	130				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-002BMSD** Method: **E200.8**

Analysis Date: **06/19/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0522	0.030	0.05	0	104	70	130	0.05112	2.2	20	
Antimony	0.0518	0.0010	0.05	0	104	70	130	0.05222	0.9	20	
Arsenic	0.0492	0.0010	0.05	0	98	70	130	0.0487	1.0	20	
Barium	0.0522	0.050	0.05	0.002228	100	70	130	0.05212	0.1	20	
Cadmium	0.0500	0.0010	0.05	0	100	70	130	0.05022	0.3	20	
Copper	0.0497	0.0050	0.05	0	99	70	130	0.0491	1.3	20	
Iron	0.144	0.020	0.15	0	96	70	130	0.1442	0.1	20	
Manganese	0.0492	0.0010	0.05	0	98	70	130	0.04848	1.5	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135720

Run ID :Run Order: **ICPMS205-H_180619C: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060191-002BMSD** Method: **E200.8**

Analysis Date: **06/19/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0498	0.00030	0.05	0	100	70	130	0.04963	0.4	20	
Zinc	0.0620	0.010	0.05	0.01196	100	70	130	0.06118	1.3	20	

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 163** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **06/19/18 18:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.297	0.10	0.3	0	99	90	110				
Antimony	0.0612	0.050	0.06	0	102	90	110				
Arsenic	0.0598	0.0050	0.06	0	100	90	110				
Barium	0.0607	0.10	0.06	0	101	90	110				
Cadmium	0.0304	0.0010	0.03	0	102	90	110				
Copper	0.0603	0.010	0.06	0	101	90	110				
Iron	0.298	0.020	0.3	0	99	90	110				
Manganese	0.302	0.010	0.3	0	101	90	110				
Uranium	0.0587	0.0010	0.06	0	98	90	110				
Zinc	0.0604	0.010	0.06	0	101	90	110				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 164** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/19/18 18:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.7	0.10	40	0	104	70	130				
Antimony	0.000383	0.050		0							
Arsenic	5.92E-05	0.0050		0							
Barium	3.69E-05	0.10		0							
Cadmium	0.000153	0.0010		0							
Copper	0.000199	0.010		0							
Iron	102	0.020	100	0	102	70	130				
Manganese	0.000184	0.010		0							
Uranium	1.45E-05	0.0010		0							
Zinc	0.000513	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135720

Run ID :Run Order: **ICPMS205-H_180619C: 164** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **06/19/18 18:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Run ID :Run Order: **ICPMS205-H_180619C: 165** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **06/19/18 18:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.9	0.10	40	0	105	70	130				
Antimony	0.000284	0.050		0		0	0				
Arsenic	0.0107	0.0050	0.01	0	107	70	130				
Barium	2.58E-05	0.10		0		0	0				
Cadmium	0.0104	0.0010	0.01	0	104	70	130				
Copper	0.0201	0.010	0.02	0	100	70	130				
Iron	102	0.020	100	0	102	70	130				
Manganese	0.0207	0.010	0.02	0	104	70	130				
Uranium	3.15E-06	0.0010		0		0	0				
Zinc	0.0102	0.010	0.01	0	102	70	130				

Associated samples: **H18060191-002B, H18060191-006B, H18060191-007B, H18060191-009B, H18060191-014B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135747

Run ID :Run Order: **ICPMS205-H_180620B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/20/18 12:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.288	0.0033	0.3	0	**96**	90	110				
Antimony	0.0591	0.0010	0.06	0	**99**	90	110				
Arsenic	0.0602	0.0010	0.06	0	**100**	90	110				
Barium	0.0589	0.0010	0.06	0	**98**	90	110				
Beryllium	0.0295	0.0010	0.03	0	**98**	90	110				
Cadmium	0.0296	0.0010	0.03	0	**99**	90	110				
Calcium	3.00	0.14	3	0	**100**	90	110				
Chromium	0.0598	0.0010	0.06	0	**100**	90	110				
Cobalt	0.0603	0.0010	0.06	0	**101**	90	110				
Copper	0.0606	0.0010	0.06	0	**101**	90	110				
Lead	0.0587	0.0010	0.06	0	**98**	90	110				
Molybdenum	0.0585	0.0010	0.06	0	**97**	90	110				
Nickel	0.0606	0.0010	0.06	0	**101**	90	110				
Selenium	0.0600	0.0010	0.06	0	**100**	90	110				
Silver	0.0290	0.0010	0.03	0	**97**	90	110				
Uranium	0.0568	0.00030	0.06	0	**95**	90	110				
Vanadium	0.0599	0.0010	0.06	0	**100**	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-062A**

Run ID :Run Order: **ICPMS205-H_180620B: 48** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/20/18 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.299	0.0033	0.3	0	**100**	90	110				
Antimony	0.0615	0.0010	0.06	0	**102**	90	110				
Arsenic	0.0605	0.0010	0.06	0	**101**	90	110				
Barium	0.0613	0.0010	0.06	0	**102**	90	110				
Beryllium	0.0284	0.0010	0.03	0	**95**	90	110				
Cadmium	0.0310	0.0010	0.03	0	**103**	90	110				
Calcium	2.96	0.14	3	0	**99**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135747

Run ID :Run Order: **ICPMS205-H_180620B: 48** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/20/18 18:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0602	0.0010	0.06	0	**100**	90	110				
Cobalt	0.0606	0.0010	0.06	0	**101**	90	110				
Copper	0.0605	0.0010	0.06	0	**101**	90	110				
Lead	0.0584	0.0010	0.06	0	**97**	90	110				
Molybdenum	0.0606	0.0010	0.06	0	**101**	90	110				
Nickel	0.0612	0.0010	0.06	0	**102**	90	110				
Selenium	0.0604	0.0010	0.06	0	**101**	90	110				
Silver	0.0303	0.0010	0.03	0	**101**	90	110				
Uranium	0.0562	0.00030	0.06	0	**94**	90	110				
Vanadium	0.0602	0.0010	0.06	0	**100**	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135823

Run ID :Run Order: **ICPMS205-H_180622B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/22/18 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.297	0.0033	0.3	0	**99**	90	110				
Antimony	0.0600	0.0010	0.06	0	**100**	90	110				
Arsenic	0.0603	0.0010	0.06	0	**101**	90	110				
Barium	0.0593	0.0010	0.06	0	**99**	90	110				
Beryllium	0.0306	0.0010	0.03	0	**102**	90	110				
Cadmium	0.0298	0.0010	0.03	0	**99**	90	110				
Calcium	2.93	0.14	3	0	**98**	90	110				
Chromium	0.0595	0.0010	0.06	0	**99**	90	110				
Cobalt	0.0599	0.0010	0.06	0	**100**	90	110				
Lead	0.0582	0.0010	0.06	0	**97**	90	110				
Molybdenum	0.0586	0.0010	0.06	0	**98**	90	110				
Nickel	0.0602	0.0010	0.06	0	**100**	90	110				
Selenium	0.0598	0.0010	0.06	0	**100**	90	110				
Silver	0.0298	0.0010	0.03	0	**99**	90	110				
Uranium	0.0547	0.00030	0.06	0	**91**	90	110				
Vanadium	0.0593	0.0010	0.06	0	**99**	90	110				

Associated samples: **H18060191-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135879

Run ID :Run Order: **ICP2-HE_180625A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **06/25/18 10:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.05	0.10	4	0	101	90	110				
Boron	0.768	0.10	0.8	0	96	90	110				
Copper	0.806	0.012	0.8	0	101	90	110				
Iron	3.94	0.030	4	0	98	90	110				
Manganese	3.96	0.010	4	0	99	90	110				
Zinc	0.780	0.010	0.8	0	97	90	110				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **ICP2-HE_180625A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **06/25/18 10:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	523	0.10	500	0	105	80	120				
Boron	0.00955	0.10		0		0	0				
Copper	-0.000870	0.012		0		0	0				
Iron	185	0.030	200	0	92	80	120				
Manganese	-0.00696	0.010		0		0	0				
Zinc	0.00445	0.010		0		0	0				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **ICP2-HE_180625A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/25/18 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	0.10	500	0	106	80	120				
Boron	0.993	0.10	1	0	99	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135879

Run ID :Run Order: **ICP2-HE_180625A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **06/25/18 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.521	0.012	0.5	0	**104**	80	120				
Iron	187	0.030	200	0	**94**	80	120				
Manganese	0.486	0.010	0.5	0	**97**	80	120				
Zinc	1.02	0.010	1	0	**102**	80	120				

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135884

Run ID :Run Order: **ICPMS205-H_180625B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/26/18 00:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0306	0.0010	0.03	0	**102**	90	110				
Calcium	2.98	0.14	3	0	**99**	90	110				

Associated samples: **H18060191-039A, H18060191-042A, H18060191-045A, H18060191-048A, H18060191-051A, H18060191-054A, H18060191-057A, H18060191-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135911

Run ID :Run Order: **ICPMS205-H_180626A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **06/26/18 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0296	0.0010	0.03	0	**99**	90	110				
Calcium	2.93	0.14	3	0	**98**	90	110				

Associated samples: **H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135973

Run ID :Run Order: **SOIL DRYING OVEN 2_180626B: 6** SampType: **Sample Duplicate** Lab ID: **H18060191-019ADUP** Method: **D2974**

Analysis Date: **06/28/18 08:18** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.5	0.20		0				20.47	0.1	20	

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180626B: 1** SampType: **Sample Duplicate** Lab ID: **H18060191-023ADUP** Method: **D2974**

Analysis Date: **06/28/18 08:18** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	17.7	0.20		0				15.9	11	20	

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180626B: 3** SampType: **Sample Duplicate** Lab ID: **H18060191-029ADUP** Method: **D2974**

Analysis Date: **06/28/18 08:18** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	17.7	0.20		0				16.33	8.1	20	

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180626B: 4** SampType: **Sample Duplicate** Lab ID: **H18060191-034ADUP** Method: **D2974**

Analysis Date: **06/28/18 08:18** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.4	0.20		0				20.17	1.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R135973

Run ID :Run Order: **SOIL DRYING OVEN 2_180626B: 4** SampType: **Sample Duplicate** Lab ID: **H18060191-034ADUP** Method: **D2974**

Analysis Date: **06/28/18 08:18** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180626B: 8** SampType: **Sample Duplicate** Lab ID: **H18060191-055ADUP** Method: **D2974**

Analysis Date: **06/28/18 09:24** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	19.8	0.20		0				19.86	**0.3**	20	

Associated samples: **H18060191-018A, H18060191-019A, H18060191-020A, H18060191-021A, H18060191-022A, H18060191-023A, H18060191-024A, H18060191-025A, H18060191-026A, H18060191-027A, H18060191-028A, H18060191-029A, H18060191-030A, H18060191-031A, H18060191-032A, H18060191-033A, H18060191-034A, H18060191-035A, H18060191-036A, H18060191-037A, H18060191-038A, H18060191-039A, H18060191-040A, H18060191-041A, H18060191-042A, H18060191-043A, H18060191-044A, H18060191-045A, H18060191-046A, H18060191-047A, H18060191-048A, H18060191-049A, H18060191-050A, H18060191-051A, H18060191-052A, H18060191-053A, H18060191-054A, H18060191-055A, H18060191-056A, H18060191-057A, H18060191-058A, H18060191-059A, H18060191-060A, H18060191-061A, H18060191-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R136067

Run ID :Run Order: **ICPMS205-H_180702A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **07/02/18 10:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0611	0.010	0.06	0	102	90	110				

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **07/02/18 10:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.70E-05	0.010		0							

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/02/18 10:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.09E-05	0.010		0		0	0				

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 20** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **07/02/18 10:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	3E-05									

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 21** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **07/02/18 10:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0499	0.010	0.05	0	100	85	115				

Associated samples: **H18060191-001B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R136067

Run ID :Run Order: **ICPMS205-H_180702A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18060722-015BMS** Method: **E200.8**
Analysis Date: **07/02/18 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0506	0.0010	0.05	0	**101**	70	130				

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18060722-015BMSD** Method: **E200.8**
Analysis Date: **07/02/18 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0515	0.0010	0.05	0	**103**	70	130	0.05058	**1.8**	20	

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 100** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **07/02/18 15:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0601	0.010	0.06	0	**100**	90	110				

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 101** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **07/02/18 15:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.71E-05	0.010		0							

Associated samples: **H18060191-001B**

Run ID :Run Order: **ICPMS205-H_180702A: 102** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **07/02/18 15:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.86E-05	0.010		0		0	0				

Associated samples: **H18060191-001B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: R136217

Run ID :Run Order: **ICPMS205-H_180705B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **07/05/18 13:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0603	0.010	0.06	0	**101**	90	110				
Nickel	0.0607	0.010	0.06	0	**101**	90	110				
Zinc	0.0613	0.010	0.06	0	**102**	90	110				

Associated samples: **H18060191-009C**

Run ID :Run Order: **ICPMS205-H_180705B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **07/05/18 13:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	9.66E-05	0.010		0							
Nickel	3.85E-05	0.010		0							
Zinc	0.000396	0.010		0							

Associated samples: **H18060191-009C**

Run ID :Run Order: **ICPMS205-H_180705B: 13** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **07/05/18 13:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0189	0.010	0.02	0	**95**	70	130				
Nickel	0.0191	0.010	0.02	0	**95**	70	130				
Zinc	0.00953	0.010	0.01	0	**95**	70	130				

Associated samples: **H18060191-009C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: TSS180611A

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 1** SampType: **Method Blank** Lab ID: **MB-1_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	98.0	10	100	0	98	80	120				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 4** SampType: **Sample Duplicate** Lab ID: **H18060212-001ADUP** Method: **A2540 D**

Analysis Date: **06/11/18 13:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	55.0	10		0				53	3.7	5	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 1** SampType: **Sample Duplicate** Lab ID: **H18060191-001ADUP** Method: **A2540 D**

Analysis Date: **06/11/18 13:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	8.40	10		0				8		5	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 2** SampType: **Method Blank** Lab ID: **MB-25_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18060191
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *06-Jul-18*

BatchID: TSS180611A

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 2** SampType: **Method Blank** Lab ID: **MB-25_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_180611A** Method: **A2540 D**

Analysis Date: **06/11/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	100.0	10	100	0	**100**	80	120				

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 2** SampType: **Sample Duplicate** Lab ID: **H18060191-012ADUP** Method: **A2540 D**

Analysis Date: **06/11/18 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	15.6	10		0				16	**2.5**	5	

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180611A: 3** SampType: **Sample Duplicate** Lab ID: **H18060192-012ADUP** Method: **A2540 D**

Analysis Date: **06/11/18 13:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	11.6	10		0				15.2	**27**	5	R

Associated samples: **H18060191-001A, H18060191-002A, H18060191-003A, H18060191-004A, H18060191-005A, H18060191-006A, H18060191-007A, H18060191-008A, H18060191-009A, H18060191-010A, H18060191-011A, H18060191-012A, H18060191-013A, H18060191-014A, H18060191-015A, H18060191-016A, H18060191-017A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18060191

Login completed by: Jessica C. Smith
Date Received: 6/8/2018
Reviewed by: BL2000\rtooke
Received by: RAT
Reviewed Date: 6/13/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 1.0 °C, Cooler 2 at 3.0 °C, Cooler 3 at 0.9 °C, Cooler 4 at 1.4 °C. One Ice. Box 1 was received at 19.5 °C, Box 2 at 18.0 °C. No Ice, and no temperature blank. JCS 06/08/2018

ENERGY
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Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 4

Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

C1 1.0
C2 3.0
C3 0.9
C4 1.4
B1 19.5
B2 18.0
TB

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C2	1 SS-06G	6-7-18	1445	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18060191
C2	2 Field Blank #2 SS-07	6-7-18	1400	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C2	3 SS-07	6-7-18	1415	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C2	4 SS-08	6-7-18	1230	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C3	5 SS-10A	6-7-18	1115	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C3	6 SS-11C	6-7-18	1000	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C3	7 SS-11C Duplicate	6-7-18	1000	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C3	8 SS-11D	6-7-18	0915	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	9 Field Blank #1 SS-13	6-6-18	1545	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C4	10 SS-13	6-6-18	1615	5	W	✓	✓	✓	✓	✓	✓	✓	✓				

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tarkiet Thaxiet	6/8/18 10:42	Tarkiet Thaxiet	Rebecca Teole	6/8/18 10:42	Rebecca Teole

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	454, 28, 302, 453	Y N C B	Y N	see com °C	Y N coolers box	Y N coolers	CC Cash Check	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ENERGY LAB
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Chain of Custody & Analytical Request Record

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Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

C1 1.0
C2 3.0
C3 0.9
C4 1.4
B1 19.5
B2 18.0
} TB

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C4	1 SS-13 Duplicate	6-6-18	1615	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18060191
C4	2 SS-14	6-6-18	1445	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	3 SS-15A-2	6-6-18	1330	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	4 SS-15B	6-6-18	1230	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C4	5 SS-16	6-6-18	1100	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	6 SS-17D	6-6-18	0945	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C4	7 SS-19	6-6-18	0900	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
B2	8 SS-06G	6-7-18	1445	1	S									✓			
B2	9 SS-06G Duplicate	6-7-18	1445	1	S									✓			
B2	10 SS-07	6-7-18	1415	1	S									✓			

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Relinquished by (print) Tanner Traxler	Date/Time 6/8/18 10:42	Signature [signature]	Received by Laboratory (print) Rebecca Tooke	Date/Time 6/8/18 10:42	Signature Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	454, 28 302, 453	Y N C B	Y N	see com °C	Y N Box coolers	Y N coolers	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ENERGY LAB
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones; Joe Naughton; Erich Weber
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

C1 1.0
C2 3.0
C3 8.9
C4 1.4
} B
B1 19.5
B2 18.0

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Tot Metals, dry weight (see list)									See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
B2	1 SS-08	6-7-18	1230	1	S	✓											H18060191
B1	2 SS-10A	6-7-18	1115	1	S	✓											
1	3 SS-11C	6-7-18	1000	1	S	✓											
1	4 SS-11D	6-7-18	0915	1	S	✓											
B1	5 SS-13	6-6-18	1615	1	S	✓											
B1	6 SS-14	6-6-18	1445	1	S	✓											
B1	7 SS-15A-2	6-6-18	1330	1	S	✓											
B1	8 SS-15A-2 Duplicate	6-6-18	1330	1	S	✓											
B1	9 SS-15B	6-6-18	1230	1	S	✓											
B1	10 SS-16	6-6-18	1100	1	S	✓											

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	6/8/18 10:42	Tanner Traxler	Rebecca Tooke	6/8/18 10:42	Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Lund	454, 28, 302, 453	Y N C B	Y N	see com °C	Y N coolers Box	Y N coolers	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones; Joe Naughton; Erich Weber
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com; erich.weber@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

C1 1.0
C2 3.0
C3 0.9
C4 1.4
B1 19.5
B1 18.0
} TB

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
B1	1 SS-17D	6-6-18	0945	1	S	✓			H18060191
B1	2 SS-19	6-6-18	0900	1	S	✓			
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Robert Traxler	6/8/18 10:42		Rebecca Rooks	6/8/18 10:42	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	454, 28 302, 453	Y (N) C B	Y N	see com °C	(Y) N coolers Box	(Y) N coolers	CC Cash Check	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

APPENDIX B-3

Third Quarter Results

ANALYTICAL SUMMARY REPORT

October 03, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18090302 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 14 samples for MT DEQ-Federal Superfund on 9/14/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18090302-001	SS-01	09/13/18 16:30	09/14/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Suspended
H18090302-002	SS-05A	09/13/18 14:45	09/14/18	Surface Water	Same As Above
H18090302-003	SS-15G	09/12/18 13:15	09/14/18	Surface Water	Same As Above
H18090302-004	SS-04 Sediment Sieve <0.063mm	09/13/18 16:00	09/14/18	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Total Metals Digestion by SW3050B Sieve Analysis, Wet Soil Preparation USDA1
H18090302-005	SLAG-01 Sediment Sieve <0.063mm	09/13/18 15:15	09/14/18	Sediment	Same As Above
H18090302-006	SS-01 Sediment Sieve <0.063mm	09/13/18 16:30	09/14/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet
H18090302-007	SS-01 Sediment Sieve 1mm-0.063mm	09/13/18 16:30	09/14/18	Sediment	Same As Above
H18090302-008	SS-01Sediment Sieve 2mm-1mm	09/13/18 16:30	09/14/18	Sediment	Same As Above
H18090302-009	SS-05A Sediment Sieve <0.063mm	09/13/18 14:45	09/14/18	Sediment	Same As Above
H18090302-010	SS-05A Sediment Sieve 1mm-0.063mm	09/13/18 14:45	09/14/18	Sediment	Same As Above
H18090302-011	SS-05A Sediment Sieve 2mm-1mm	09/13/18 14:45	09/14/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18090302-012	SS-15G Sediment Sieve <0.063mm	09/12/18 13:15	09/14/18	Sediment	Same As Above
H18090302-013	SS-15G Sediment Sieve 1mm-0.063mm	09/12/18 13:15	09/14/18	Sediment	Same As Above
H18090302-014	SS-15G Sediment Sieve 2mm-1mm	09/12/18 13:15	09/14/18	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090302-001
Collection Date: 09/13/18 16:30
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:35 / cm			-124 (14410200)_180914A	5	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	99	mg/L		4	2	A2320 B	09/14/18 18:22 / SR			PHSC_101-H_180914A	124	R138171
Bicarbonate as HCO3	120	mg/L		4	2	A2320 B	09/14/18 18:22 / SR			PHSC_101-H_180914A	124	R138171
Chloride	13	mg/L		1	0.009	E300.0	09/15/18 05:49 / SR			IC METROHM_180914A	57	R138214
Sulfate	27	mg/L		1	0.01	E300.0	09/15/18 05:49 / SR			IC METROHM_180914A	57	R138214
Hardness as CaCO3	120	mg/L		1	1	A2340 B	09/17/18 13:14 / SR			CALC_180919A	399	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:42 / km			FIA203-HE_180917B	15	R138227
Nitrogen, Nitrate+Nitrite as N	0.93	mg/L		0.02	0.009	E353.2	09/20/18 14:05 / km			FIA203-HE_180920B	20	R138353
Nitrogen, Total	1.17	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:08 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	23	43128
Phosphorus, Total as P	0.076	mg/L		0.003	0.0004	E365.1	09/18/18 16:24 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	77	43134
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Antimony	0.00015	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Barium	0.049	mg/L		0.003	0.00002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Boron	0.020	mg/L	J	0.1	0.006	E200.7	09/17/18 13:14 / sld			ICP2-HE_180917B	35	R138225
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Calcium	34	mg/L		1	0.07	E200.7	09/17/18 13:14 / sld			ICP2-HE_180917B	35	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Copper	0.001	mg/L		0.001	0.0001	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Iron	0.19	mg/L		0.02	0.002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Lead	ND	mg/L		0.0003	0.00003	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Magnesium	8	mg/L		1	0.1	E200.7	09/17/18 13:14 / sld			ICP2-HE_180917B	35	R138225
Manganese	0.029	mg/L		0.001	0.0003	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/19/18 12:36 / dck	09/18/18 12:25	E245.1	HGCV202-H_180919A	25	43136
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Nickel	ND	mg/L		0.002	0.0002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Potassium	3	mg/L		1	0.06	E200.7	09/17/18 13:14 / sld			ICP2-HE_180917B	35	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090302-001
Collection Date: 09/13/18 16:30
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00014	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Sodium	11	mg/L		1	0.02	E200.7	09/17/18 13:14 / sld			ICP2-HE_180917B	35	R138225
Uranium	0.0034	mg/L		0.0002	0.00001	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Vanadium	0.0023	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
Zinc	0.0036	mg/L	J	0.008	0.0003	E200.8	09/17/18 12:00 / sld			ICPMS205-H_180917A	35	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.032	mg/L		0.009	0.003	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Barium	0.050	mg/L		0.003	0.00009	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Boron	0.019	mg/L	J	0.1	0.005	E200.7	09/19/18 16:02 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	43	43120
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Calcium	35	mg/L		1	0.09	E200.7	09/18/18 13:15 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	36	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Cobalt	ND	mg/L		0.01	0.00006	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Copper	0.002	mg/L		0.001	0.0002	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Iron	0.38	mg/L		0.02	0.004	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Lead	0.00021	mg/L	J	0.0003	0.00004	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Magnesium	9	mg/L		1	0.2	E200.7	09/18/18 13:15 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	36	43120
Manganese	0.032	mg/L		0.001	0.0003	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/19/18 12:39 / dck	09/18/18 12:25	E245.1	HGCV202-H_180919A	26	43136
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Nickel	0.0003	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Potassium	3	mg/L		1	0.06	E200.7	09/18/18 13:15 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	36	43120
Selenium	0.00035	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Sodium	12	mg/L		1	0.03	E200.7	09/18/18 13:15 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	36	43120
Uranium	0.0036	mg/L		0.0002	9E-06	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Vanadium	0.0039	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120
Zinc	0.004	mg/L	J	0.008	0.001	E200.8	09/18/18 12:16 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	86	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090302-002
Collection Date: 09/13/18 14:45
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:36 / cm			-124 (14410200)_180914A	6	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	09/14/18 18:28 / SR			PHSC_101-H_180914A	126	R138171
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	09/14/18 18:28 / SR			PHSC_101-H_180914A	126	R138171
Chloride	21	mg/L		1	0.009	E300.0	09/15/18 06:03 / SR			IC METROHM_180914A	58	R138214
Sulfate	34	mg/L		1	0.01	E300.0	09/15/18 06:03 / SR			IC METROHM_180914A	58	R138214
Hardness as CaCO3	135	mg/L		1	1	A2340 B	09/17/18 13:18 / SR			CALC_180919A	410	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:43 / km			FIA203-HE_180917B	16	R138227
Nitrogen, Nitrate+Nitrite as N	1.02	mg/L		0.02	0.009	E353.2	09/20/18 14:06 / km			FIA203-HE_180920B	21	R138353
Nitrogen, Total	1.26	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:09 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	24	43128
Phosphorus, Total as P	0.088	mg/L		0.003	0.0004	E365.1	09/18/18 16:28 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	80	43134
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Antimony	0.00019	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Barium	0.054	mg/L		0.003	0.00002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Boron	0.029	mg/L	J	0.1	0.006	E200.7	09/17/18 13:18 / sld			ICP2-HE_180917B	36	R138225
Cadmium	0.00004	mg/L		0.00003	0.00003	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Calcium	39	mg/L		1	0.07	E200.7	09/17/18 13:18 / sld			ICP2-HE_180917B	36	R138225
Chromium	0.0002	mg/L	J	0.01	0.0002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Copper	0.002	mg/L		0.001	0.0001	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Iron	0.12	mg/L		0.02	0.002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Lead	0.00004	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Magnesium	9	mg/L		1	0.1	E200.7	09/17/18 13:18 / sld			ICP2-HE_180917B	36	R138225
Manganese	0.059	mg/L		0.001	0.0003	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/19/18 12:42 / dck	09/18/18 12:25	E245.1	HGCV202-H_180919A	27	43136
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Potassium	3	mg/L		1	0.06	E200.7	09/17/18 13:18 / sld			ICP2-HE_180917B	36	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090302-002
Collection Date: 09/13/18 14:45
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00017	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Sodium	15	mg/L		1	0.02	E200.7	09/17/18 13:18 / sld			ICP2-HE_180917B	36	R138225
Uranium	0.0041	mg/L		0.0002	0.00001	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Vanadium	0.0026	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:02 / sld			ICPMS205-H_180917A	36	R138224
Zinc	0.010	mg/L		0.008	0.0003	E200.8	09/18/18 13:45 / sld			ICPMS205-H_180918A	132	R138264
METALS, TOTAL RECOVERABLE												
Aluminum	0.028	mg/L		0.009	0.003	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Barium	0.051	mg/L		0.003	0.00009	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Boron	0.029	mg/L	J	0.1	0.005	E200.7	09/19/18 16:28 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	50	43120
Cadmium	0.00006	mg/L		0.00003	0.00003	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Calcium	39	mg/L		1	0.09	E200.7	09/18/18 13:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	41	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Cobalt	ND	mg/L		0.01	0.00006	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Copper	0.004	mg/L		0.001	0.0002	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Iron	0.32	mg/L		0.02	0.004	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Lead	0.0006	mg/L		0.0003	0.00004	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Magnesium	10	mg/L		1	0.2	E200.7	09/18/18 13:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	41	43120
Manganese	0.063	mg/L		0.001	0.0003	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Mercury	1.4E-06	mg/L	J	5E-06	1E-06	E245.1	09/19/18 12:46 / dck	09/18/18 12:25	E245.1	HGCV202-H_180919A	28	43136
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Nickel	0.0003	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Potassium	3	mg/L		1	0.06	E200.7	09/18/18 13:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	41	43120
Selenium	0.00024	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Sodium	16	mg/L		1	0.03	E200.7	09/18/18 13:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	41	43120
Uranium	0.0044	mg/L		0.0002	9E-06	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Vanadium	0.0044	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120
Zinc	0.012	mg/L		0.008	0.001	E200.8	09/18/18 12:18 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	87	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090302-003
Collection Date: 09/12/18 13:15
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	1	mg/L		1	0.3	A2540 D	09/14/18 14:36 / cm			-124 (14410200)_180914A	7	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	09/14/18 18:34 / SR			PHSC_101-H_180914A	128	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 18:34 / SR			PHSC_101-H_180914A	128	R138171
Chloride	0.70	mg/L	J	1	0.009	E300.0	09/15/18 07:27 / SR			IC METROHM_180914A	63	R138214
Sulfate	25	mg/L		1	0.01	E300.0	09/15/18 07:27 / SR			IC METROHM_180914A	63	R138214
Hardness as CaCO3	130	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	1	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:44 / km			FIA203-HE_180917B	17	R138227
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	09/20/18 14:07 / km			FIA203-HE_180920B	22	R138353
Nitrogen, Total	0.09	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:13 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	27	43128
Phosphorus, Total as P	0.029	mg/L		0.003	0.0004	E365.1	09/18/18 16:29 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	81	43134
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Antimony	0.00010	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Barium	0.025	mg/L		0.003	0.00002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Boron	0.007	mg/L	J	0.1	0.006	E200.7	09/17/18 13:22 / sld			ICP2-HE_180917B	37	R138225
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Calcium	38	mg/L		1	0.07	E200.7	09/17/18 13:22 / sld			ICP2-HE_180917B	37	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Cobalt	0.00095	mg/L	J	0.01	0.00009	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Copper	0.0006	mg/L	J	0.001	0.0001	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Iron	0.008	mg/L	J	0.02	0.002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Lead	ND	mg/L		0.0003	0.00003	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Magnesium	7	mg/L		1	0.1	E200.7	09/17/18 13:22 / sld			ICP2-HE_180917B	37	R138225
Manganese	0.001	mg/L		0.001	0.0003	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/19/18 12:49 / dck	09/18/18 12:25	E245.1	HGCV202-H_180919A	29	43136
Molybdenum	0.00027	mg/L	J	0.005	0.00002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Nickel	ND	mg/L		0.002	0.0002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Potassium	1	mg/L		1	0.06	E200.7	09/17/18 13:22 / sld			ICP2-HE_180917B	37	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090302-003
Collection Date: 09/12/18 13:15
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00045	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Sodium	4	mg/L		1	0.02	E200.7	09/17/18 13:22 / sld			ICP2-HE_180917B	37	R138225
Uranium	0.0007	mg/L		0.0002	0.00001	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Vanadium	0.0011	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
Zinc	0.0033	mg/L	J	0.008	0.0003	E200.8	09/17/18 12:04 / sld			ICPMS205-H_180917A	37	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.022	mg/L		0.009	0.003	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Barium	0.023	mg/L		0.003	0.00009	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Boron	0.007	mg/L	J	0.1	0.005	E200.7	09/19/18 16:32 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	51	43120
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Calcium	39	mg/L		1	0.09	E200.7	09/18/18 13:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	42	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Cobalt	0.0011	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Copper	0.0008	mg/L	J	0.001	0.0002	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Iron	0.03	mg/L		0.02	0.004	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Lead	ND	mg/L		0.0003	0.00004	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Magnesium	8	mg/L		1	0.2	E200.7	09/18/18 13:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	42	43120
Manganese	0.003	mg/L		0.001	0.0003	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/19/18 12:52 / dck	09/18/18 12:25	E245.1	HGCV202-H_180919A	30	43136
Molybdenum	0.00030	mg/L	J	0.005	0.00002	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Nickel	0.0002	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Potassium	2	mg/L		1	0.06	E200.7	09/18/18 13:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	42	43120
Selenium	0.00045	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Sodium	4	mg/L		1	0.03	E200.7	09/18/18 13:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	42	43120
Uranium	0.0008	mg/L		0.0002	9E-06	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Vanadium	0.0026	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	09/18/18 12:20 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	88	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-04 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-004
Collection Date: 09/13/18 16:00
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	57.4	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 17	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.7	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 16	R138423
3050 EXTRACTABLE METALS												
Arsenic	375	mg/kg-dry		5	0.5	SW6020	09/25/18 12:25 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 78	43208
Cadmium	11.8	mg/kg-dry		0.2	0.2	SW6020	09/25/18 12:25 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 78	43208
Copper	3310	mg/kg-dry		7	7	SW6010B	09/25/18 15:48 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 39	43208
Lead	662	mg/kg-dry		5	0.9	SW6020	09/25/18 12:25 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 78	43208
Zinc	3050	mg/kg-dry		7	7	SW6010B	09/25/18 15:48 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 39	43208

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SLAG-01 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-005
Collection Date: 09/13/18 15:15
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	58.8	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 18	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.1	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 17	R138423
3050 EXTRACTABLE METALS												
Arsenic	413	mg/kg-dry		5	0.5	SW6020	09/27/18 18:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 31	43229
Cadmium	14.1	mg/kg-dry		0.2	0.2	SW6020	09/27/18 18:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 31	43229
Copper	6970	mg/kg-dry		7	7	SW6010B	10/01/18 21:33 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 96	43229
Lead	1230	mg/kg-dry		5	0.9	SW6020	09/27/18 18:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 31	43229
Zinc	2400	mg/kg-dry		7	7	SW6010B	10/01/18 21:33 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 96	43229

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-006
Collection Date: 09/13/18 16:30
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	51.2	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 20	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.5	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 18	R138423
3050 EXTRACTABLE METALS												
Aluminum	23300	mg/kg-dry	D	20	20	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Antimony	ND	mg/kg-dry		5	2	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Arsenic	36	mg/kg-dry		5	0.4	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Barium	315	mg/kg-dry		5	2	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Beryllium	0.8	mg/kg-dry	J	5	0.6	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Boron	10	mg/kg-dry		5	2	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Cadmium	1.5	mg/kg-dry		0.2	0.2	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Chromium	44	mg/kg-dry		5	1	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Cobalt	10	mg/kg-dry		5	5	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Copper	332	mg/kg-dry		6	6	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Iron	35000	mg/kg-dry	D	100	100	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Lead	116	mg/kg-dry		5	0.7	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Manganese	719	mg/kg-dry		5	2	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Molybdenum	18	mg/kg-dry		5	0.3	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Nickel	20	mg/kg-dry		5	0.8	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Selenium	1.3	mg/kg-dry	J	5	0.7	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Silver	1.4	mg/kg-dry	J	5	0.3	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Uranium	9	mg/kg-dry		5	0.2	SW6020	09/25/18 12:27 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 79	43208
Vanadium	97	mg/kg-dry		3	3	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
Zinc	365	mg/kg-dry		6	6	SW6010B	09/25/18 15:59 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 42	43208
METALS, TOTAL												
Mercury	0.16	mg/kg-dry		0.10	0.034	SW7471B	09/25/18 13:39 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 13	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-007
Collection Date: 09/13/18 16:30
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.5	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 22	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Retained	57.2	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 19	R138423
3050 EXTRACTABLE METALS												
Aluminum	4020	mg/kg-dry	D	10	10	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Antimony	ND	mg/kg-dry		5	1	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Arsenic	4.7	mg/kg-dry	J	5	0.2	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Barium	49	mg/kg-dry		5	1	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Boron	1	mg/kg-dry	J	5	1	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Cadmium	0.1	mg/kg-dry	J	0.2	0.1	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Chromium	13	mg/kg-dry		5	0.7	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Cobalt	ND	mg/kg-dry		5	3	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Copper	30	mg/kg-dry		5	3	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Iron	14700	mg/kg-dry	D	70	70	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Lead	13	mg/kg-dry		5	0.4	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Manganese	160	mg/kg-dry		5	1	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Molybdenum	1.2	mg/kg-dry	J	5	0.2	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Nickel	3.5	mg/kg-dry	J	5	0.5	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Silver	ND	mg/kg-dry		5	0.2	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Uranium	1.9	mg/kg-dry	J	5	0.1	SW6020	09/25/18 12:41 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 86	43208
Vanadium	44	mg/kg-dry		2	2	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
Zinc	84	mg/kg-dry		5	4	SW6010B	09/25/18 16:03 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 43	43208
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0032	SW7471B	09/25/18 13:55 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 21	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-008
Collection Date: 09/13/18 16:30
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.2	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 26	R138605
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	21.2	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 20	R138423
3050 EXTRACTABLE METALS												
Aluminum	3100	mg/kg-dry	D	10	10	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Antimony	ND	mg/kg-dry		5	1	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Arsenic	3.0	mg/kg-dry	J	5	0.2	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Barium	51	mg/kg-dry		5	1	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Boron	1	mg/kg-dry	J	5	1	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Cadmium	ND	mg/kg-dry		0.2	0.1	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Chromium	5	mg/kg-dry		5	0.8	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Cobalt	ND	mg/kg-dry		5	3	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Copper	8	mg/kg-dry		5	3	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Iron	4140	mg/kg-dry	D	70	70	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Lead	4.3	mg/kg-dry	J	5	0.5	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Manganese	226	mg/kg-dry		5	1	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Nickel	1.9	mg/kg-dry	J	5	0.5	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Silver	ND	mg/kg-dry		5	0.2	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	09/25/18 12:44 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 88	43208
Vanadium	13	mg/kg-dry		2	2	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
Zinc	24	mg/kg-dry		5	4	SW6010B	09/25/18 16:22 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 48	43208
METALS, TOTAL												
Mercury	0.004	mg/kg-dry	J	0.10	0.0031	SW7471B	09/25/18 14:11 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 27	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-009
Collection Date: 09/13/18 14:45
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	55.6	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 28	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Passed	6.7	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 21	R138423
3050 EXTRACTABLE METALS												
Aluminum	21300	mg/kg-dry	D	20	20	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Antimony	3	mg/kg-dry	J	5	2	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Arsenic	342	mg/kg-dry		5	0.5	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Barium	354	mg/kg-dry		5	2	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Beryllium	1.0	mg/kg-dry	J	5	0.7	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Boron	11	mg/kg-dry		5	2	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Cadmium	17.8	mg/kg-dry		0.2	0.2	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Chromium	65	mg/kg-dry		5	1	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Cobalt	17	mg/kg-dry		6	6	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Copper	3180	mg/kg-dry		6	6	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Iron	50200	mg/kg-dry	D	100	100	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Lead	755	mg/kg-dry		5	0.9	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Manganese	2290	mg/kg-dry		5	2	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Molybdenum	17	mg/kg-dry		5	0.4	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Nickel	27	mg/kg-dry		5	0.9	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Selenium	1.9	mg/kg-dry	J	5	0.8	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Silver	11	mg/kg-dry		5	0.4	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Uranium	11	mg/kg-dry		5	0.2	SW6020	09/25/18 12:46 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 89	43208
Vanadium	106	mg/kg-dry		3	3	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
Zinc	3490	mg/kg-dry		7	7	SW6010B	09/25/18 16:25 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 49	43208
METALS, TOTAL												
Mercury	1.4	mg/kg-dry		0.10	0.029	SW7471B	09/25/18 13:47 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 17	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-010
Collection Date: 09/13/18 14:45
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.8	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 30	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Retained	39.1	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 22	R138423
3050 EXTRACTABLE METALS												
Aluminum	3650	mg/kg-dry	D	10	10	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
Antimony	2	mg/kg-dry	J	5	1	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Arsenic	63	mg/kg-dry		5	0.3	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Barium	59	mg/kg-dry		5	1	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Boron	2	mg/kg-dry	J	5	1	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
Cadmium	2.5	mg/kg-dry		0.2	0.1	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Chromium	25	mg/kg-dry		5	0.8	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Cobalt	16	mg/kg-dry		5	3	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
Copper	582	mg/kg-dry		5	4	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
Iron	77100	mg/kg-dry	D	100	100	SW6010B	10/02/18 00:32 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 144	43247
Lead	181	mg/kg-dry		5	0.5	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Manganese	1070	mg/kg-dry		5	1	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
Molybdenum	2.8	mg/kg-dry	J	5	0.2	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Nickel	11	mg/kg-dry		5	0.5	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Selenium	1.7	mg/kg-dry	J	5	0.5	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Silver	3.1	mg/kg-dry	J	5	0.2	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Uranium	3.5	mg/kg-dry	J	5	0.1	SW6020	09/25/18 13:10 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 101	43208
Vanadium	101	mg/kg-dry		2	2	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
Zinc	1350	mg/kg-dry		5	4	SW6010B	09/25/18 16:51 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 56	43208
METALS, TOTAL												
Mercury	0.09	mg/kg-dry	J	0.10	0.0030	SW7471B	09/25/18 14:07 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 25	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-011
Collection Date: 09/13/18 14:45
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.2	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 34	R138605
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	19.3	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 23	R138423
3050 EXTRACTABLE METALS												
Aluminum	2600	mg/kg-dry	D	10	10	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Antimony	ND	mg/kg-dry		5	1	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Arsenic	44	mg/kg-dry		5	0.2	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Barium	66	mg/kg-dry		5	1	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Boron	2	mg/kg-dry	J	5	1	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Cadmium	2.0	mg/kg-dry		0.2	0.1	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Chromium	3.5	mg/kg-dry	J	5	0.8	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Cobalt	ND	mg/kg-dry		5	3	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Copper	421	mg/kg-dry		5	3	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Iron	13300	mg/kg-dry	D	70	70	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Lead	159	mg/kg-dry		5	0.5	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Manganese	3210	mg/kg-dry		5	1	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Molybdenum	1.6	mg/kg-dry	J	5	0.2	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Nickel	2.1	mg/kg-dry	J	5	0.5	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Silver	3.7	mg/kg-dry	J	5	0.2	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Uranium	1.8	mg/kg-dry	J	5	0.1	SW6020	09/25/18 13:12 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 102	43208
Vanadium	17	mg/kg-dry		2	2	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
Zinc	1390	mg/kg-dry		5	4	SW6010B	09/25/18 16:55 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 57	43208
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0031	SW7471B	09/25/18 14:19 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 31	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-012
Collection Date: 09/12/18 13:15
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	61.0	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 36	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.5	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 24	R138423
3050 EXTRACTABLE METALS												
Aluminum	26500	mg/kg-dry	D	30	30	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Antimony	ND	mg/kg-dry		5	2	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Arsenic	56	mg/kg-dry		5	0.5	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Barium	295	mg/kg-dry		5	2	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Beryllium	1.2	mg/kg-dry	J	5	0.8	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Boron	8	mg/kg-dry		5	2	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Cadmium	1.2	mg/kg-dry		0.2	0.2	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Chromium	82	mg/kg-dry		5	2	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Cobalt	12	mg/kg-dry		6	6	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Copper	78	mg/kg-dry		7	7	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Iron	27200	mg/kg-dry	D	100	100	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Lead	68	mg/kg-dry		5	0.9	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Manganese	701	mg/kg-dry		5	2	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Molybdenum	2.4	mg/kg-dry	J	5	0.4	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Nickel	46	mg/kg-dry		5	1	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Selenium	2.7	mg/kg-dry	J	5	0.9	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Silver	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Uranium	2.6	mg/kg-dry	J	5	0.3	SW6020	09/25/18 13:13 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 103	43208
Vanadium	63	mg/kg-dry		3	3	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
Zinc	110	mg/kg-dry		8	8	SW6010B	09/25/18 16:58 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 58	43208
METALS, TOTAL												
Mercury	0.22	mg/kg-dry		0.11	0.036	SW7471B	09/25/18 13:49 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 18	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-013
Collection Date: 09/12/18 13:15
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.1	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	38	R138605
SIEVE ANALYSIS												
No. 230 (63 um), Retained	25.5	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	25	R138423
3050 EXTRACTABLE METALS												
Aluminum	6460	mg/kg-dry	D	10	10	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Antimony	ND	mg/kg-dry		5	1	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Arsenic	33	mg/kg-dry		5	0.3	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Barium	81	mg/kg-dry		5	1	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Boron	ND	mg/kg-dry		5	1	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Cadmium	ND	mg/kg-dry		0.2	0.1	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Chromium	19	mg/kg-dry		5	0.8	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Cobalt	4	mg/kg-dry	J	5	3	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Copper	20	mg/kg-dry		5	4	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Iron	24400	mg/kg-dry	D	70	70	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Lead	6	mg/kg-dry		5	0.5	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Manganese	135	mg/kg-dry		5	1	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Nickel	7	mg/kg-dry		5	0.5	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Selenium	ND	mg/kg-dry		5	0.5	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Silver	ND	mg/kg-dry		5	0.2	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Uranium	3.6	mg/kg-dry	J	5	0.1	SW6020	09/25/18 13:15 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	104	43208
Vanadium	84	mg/kg-dry		2	2	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
Zinc	52	mg/kg-dry		5	4	SW6010B	09/25/18 17:02 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	59	43208
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0028	SW7471B	09/25/18 14:09 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	26	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090302-014
Collection Date: 09/12/18 13:15
DateReceived: 09/14/18
Report Date: 10/03/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.1	wt%		0.2	0.02	D2974	09/28/18 15:25 / ber			RYING OVEN 2_180927A	: 40	R138605
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	20.7	wt%-wet		0.1		SSSA 15-2	09/24/18 10:22 / swj			MISC SOILS_180924B	: 26	R138423
3050 EXTRACTABLE METALS												
Aluminum	9130	mg/kg-dry	D	10	10	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Antimony	ND	mg/kg-dry		5	1	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Arsenic	13	mg/kg-dry		5	0.2	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Barium	105	mg/kg-dry		5	1	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Boron	2	mg/kg-dry	J	5	1	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Cadmium	ND	mg/kg-dry		0.2	0.1	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Chromium	11	mg/kg-dry		5	0.8	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Cobalt	3	mg/kg-dry	J	5	3	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Copper	41	mg/kg-dry		5	3	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Iron	12100	mg/kg-dry	D	70	70	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Lead	6	mg/kg-dry		5	0.5	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Manganese	143	mg/kg-dry		5	1	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Nickel	9	mg/kg-dry		5	0.5	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Silver	ND	mg/kg-dry		5	0.2	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	09/25/18 13:17 / sld	09/24/18 08:37	SW3050 B	ICPMS205-H_180925B	: 105	43208
Vanadium	22	mg/kg-dry		2	2	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
Zinc	87	mg/kg-dry		5	4	SW6010B	09/25/18 17:06 / sld	09/24/18 08:37	SW3050 B	ICP2-HE_180925B	: 60	43208
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0032	SW7471B	09/25/18 14:21 / dck	09/24/18 09:40	SW7471B	HGCV201-H_180925A	: 32	43209

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 180919wa-hg202

Run ID :Run Order: **HGCV202-H_180919A: 21** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/19/18 12:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.75E-05	0.00010	0.0001	0	**98**	90	110				

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 180925sa-hg201

Run ID :Run Order: **HGCV201-H_180925A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **09/25/18 13:51** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**102**	90	110				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 42837

Run ID :Run Order: **FIA202-HE_180918B: 9** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **09/18/18 14:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00136	0.010		0		0	0				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA202-HE_180918B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **09/18/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: **8/7/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.247	0.010	0.25	0	99	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA202-HE_180918B: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/18/18 16:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0941	0.010	0.1	0	94	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43087

Run ID :Run Order: **FIA203-HE_180918B: 8** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **09/18/18 13:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.00139	0.10		0		0	0				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **FIA203-HE_180918B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/18/18 13:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.490	0.10	0.5	0	**98**	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **FIA203-HE_180918B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/18/18 14:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.492	0.10	0.5	0	**98**	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180918A: 28** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.7**

Analysis Date: **09/18/18 12:44** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									
Magnesium	ND	0.009									
Potassium	ND	0.06									
Sodium	0.04	0.03									

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.7**

Analysis Date: **09/18/18 12:48** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.507	0.050	0.5	0	**101**	85	115				
Calcium	25.8	1.0	25	0	**103**	85	115				
Magnesium	26.2	1.0	25	0	**105**	85	115				
Potassium	25.9	1.0	25	0	**103**	85	115				
Sodium	25.5	1.0	25	0.03848	**102**	85	115				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 37** SampType: **Serial Dilution** Lab ID: **H18090302-001CDIL** Method: **E200.7**

Analysis Date: **09/18/18 13:18** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0.0237		10	
Calcium	34.7	1.0		0		0	0	35.32	**1.8**	10	
Magnesium	8.68	1.0		0		0	0	8.745	**0.7**	10	
Potassium	2.59	1.0		0		0	0	2.808		10	N
Sodium	11.6	1.0		0		0	0	11.81	**2.3**	10	

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 38** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-001CPDS** Method: **E200.7**

Analysis Date: **09/18/18 13:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1.03	0.0237	**96**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180918A: 38** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-001CPDS** Method: **E200.7**

Analysis Date: **09/18/18 13:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	86.6	1.0	51.5	35.32	**100**	70	130				
Magnesium	62.3	1.0	51.5	8.745	**104**	70	130				
Potassium	57.0	1.0	51.5	2.808	**105**	70	130				
Sodium	65.5	1.0	51.5	11.81	**104**	70	130				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 39** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.7**

Analysis Date: **09/18/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.524	0.050	0.5	0.0237	**100**	70	130				
Calcium	58.9	1.0	25	35.32	**95**	70	130				
Magnesium	33.5	1.0	25	8.745	**99**	70	130				
Potassium	28.6	1.0	25	2.808	**103**	70	130				
Sodium	37.3	1.0	25	11.81	**102**	70	130				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001CMSD3** Method: **E200.7**

Analysis Date: **09/18/18 13:30** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.526	0.050	0.5	0.0237	**100**	70	130	0.5237	**0.4**	20	
Calcium	59.6	1.0	25	35.32	**97**	70	130	58.95	**1.1**	20	
Magnesium	34.0	1.0	25	8.745	**101**	70	130	33.52	**1.5**	20	
Potassium	29.9	1.0	25	2.808	**108**	70	130	28.56	**4.6**	20	
Sodium	39.0	1.0	25	11.81	**109**	70	130	37.3	**4.4**	20	

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180919B: 41** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.7**

Analysis Date: **09/19/18 15:54** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180919B: 41** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.7**

Analysis Date: **09/19/18 15:54** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.02	0.009									
Potassium	ND	0.06									
Sodium	0.03	0.03									

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 83** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.8**

Analysis Date: **09/18/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	0.0001	0.0001									
Arsenic	0.0001	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	0.0002	0.0001									
Cobalt	ND	6E-05									
Copper	ND	0.0002									
Iron	ND	0.004									
Lead	ND	4E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	ND	5E-05									
Silver	ND	9E-06									
Uranium	ND	9E-06									
Vanadium	0.001	2E-05									
Zinc	0.002	0.001									

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 89** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.8**

Analysis Date: **09/18/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0	**96**	85	115				
Antimony	0.551	0.0010	0.5	0.0001307	**110**	85	115				
Arsenic	0.484	0.0010	0.5	0.0001119	**97**	85	115				
Barium	0.510	0.050	0.5	0	**102**	85	115				
Beryllium	0.227	0.0010	0.25	0	**91**	85	115				
Cadmium	0.254	0.0010	0.25	0	**102**	85	115				
Chromium	0.520	0.0050	0.5	0.0001643	**104**	85	115				
Cobalt	0.494	0.0050	0.5	0	**99**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 89** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.8**

Analysis Date: **09/18/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.501	0.0050	0.5	0	100	85	115				
Iron	2.45	0.020	2.5	0	98	85	115				
Lead	0.498	0.0010	0.5	0	100	85	115				
Manganese	2.45	0.0010	2.5	0	98	85	115				
Molybdenum	0.538	0.0010	0.5	0	108	85	115				
Nickel	0.494	0.0050	0.5	0	99	85	115				
Selenium	0.492	0.0010	0.5	0	98	85	115				
Silver	0.0526	0.0010	0.05	0	105	85	115				
Uranium	0.492	0.00030	0.5	0	99	85	115				
Vanadium	0.502	0.010	0.5	0.001425	100	85	115				
Zinc	0.486	0.010	0.5	0.001847	97	85	115				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 90** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.8**

Analysis Date: **09/18/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0.0319	94	70	130				
Antimony	0.540	0.0010	0.5	0.0003763	108	70	130				
Arsenic	0.490	0.0010	0.5	0.003704	97	70	130				
Barium	0.538	0.050	0.5	0.0501	98	70	130				
Beryllium	0.229	0.0010	0.25	0	92	70	130				
Cadmium	0.244	0.0010	0.25	0	98	70	130				
Chromium	0.507	0.0050	0.5	0.0003369	101	70	130				
Cobalt	0.499	0.0050	0.5	0	100	70	130				
Copper	0.496	0.0050	0.5	0.002107	99	70	130				
Iron	2.78	0.020	2.5	0.3795	96	70	130				
Lead	0.500	0.0010	0.5	0.0002129	100	70	130				
Manganese	2.48	0.0010	2.5	0.03241	98	70	130				
Molybdenum	0.526	0.0010	0.5	0.005507	104	70	130				
Nickel	0.488	0.0050	0.5	0.0003165	97	70	130				
Selenium	0.485	0.0010	0.5	0.00035	97	70	130				
Silver	0.0504	0.0010	0.05	0	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 90** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.8**

Analysis Date: **09/18/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.493	0.00030	0.5	0.003561	**98**	70	130				
Vanadium	0.502	0.010	0.5	0.003947	**100**	70	130				
Zinc	0.482	0.010	0.5	0.003866	**96**	70	130				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 91** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 12:26** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.45	0.030	2.5	0.0319	**97**	70	130	2.394	**2.4**	20	
Antimony	0.569	0.0010	0.5	0.0003763	**114**	70	130	0.54	**5.2**	20	
Arsenic	0.504	0.0010	0.5	0.003704	**100**	70	130	0.4901	**2.7**	20	
Barium	0.574	0.050	0.5	0.0501	**105**	70	130	0.5382	**6.4**	20	
Beryllium	0.239	0.0010	0.25	0	**95**	70	130	0.2291	**4.1**	20	
Cadmium	0.259	0.0010	0.25	0	**104**	70	130	0.2445	**5.8**	20	
Chromium	0.508	0.0050	0.5	0.0003369	**101**	70	130	0.5073	**0.1**	20	
Cobalt	0.506	0.0050	0.5	0	**101**	70	130	0.4993	**1.3**	20	
Copper	0.517	0.0050	0.5	0.002107	**103**	70	130	0.4961	**4.1**	20	
Iron	2.87	0.020	2.5	0.3795	**100**	70	130	2.785	**3.0**	20	
Lead	0.516	0.0010	0.5	0.0002129	**103**	70	130	0.5	**3.1**	20	
Manganese	2.55	0.0010	2.5	0.03241	**101**	70	130	2.478	**2.9**	20	
Molybdenum	0.533	0.0010	0.5	0.005507	**105**	70	130	0.5265	**1.2**	20	
Nickel	0.502	0.0050	0.5	0.0003165	**100**	70	130	0.4878	**2.8**	20	
Selenium	0.499	0.0010	0.5	0.00035	**100**	70	130	0.4846	**3.0**	20	
Silver	0.0531	0.0010	0.05	0	**106**	70	130	0.05044	**5.1**	20	
Uranium	0.505	0.00030	0.5	0.003561	**100**	70	130	0.4935	**2.3**	20	
Vanadium	0.510	0.010	0.5	0.003947	**101**	70	130	0.5022	**1.6**	20	
Zinc	0.496	0.010	0.5	0.003866	**98**	70	130	0.4822	**2.8**	20	

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 102** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006CMS3** Method: **E200.8**

Analysis Date: **09/18/18 12:47** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.41	0.030	2.5	0.04013	95	70	130				
Antimony	0.547	0.0010	0.5	0.0005828	109	70	130				
Arsenic	0.493	0.0010	0.5	0.004763	98	70	130				
Barium	0.535	0.050	0.5	0.04517	98	70	130				
Beryllium	0.221	0.0010	0.25	0	88	70	130				
Cadmium	0.242	0.0010	0.25	0.0002377	97	70	130				
Chromium	0.504	0.0050	0.5	0.0002588	101	70	130				
Cobalt	0.489	0.0050	0.5	0.0001011	98	70	130				
Copper	0.532	0.0050	0.5	0.02175	102	70	130				
Iron	2.52	0.020	2.5	0.1067	96	70	130				
Lead	0.502	0.0010	0.5	0.0005541	100	70	130				
Manganese	2.51	0.0010	2.5	0.07368	97	70	130				
Molybdenum	0.544	0.0010	0.5	0.00565	108	70	130				
Nickel	0.488	0.0050	0.5	0.0009528	97	70	130				
Selenium	0.485	0.0010	0.5	0.0004035	97	70	130				
Silver	0.0498	0.0010	0.05	0	100	70	130				
Uranium	0.508	0.00030	0.5	0.005503	100	70	130				
Vanadium	0.502	0.010	0.5	0.00305	100	70	130				
Zinc	0.554	0.010	0.5	0.085	94	70	130				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 103** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.030	2.5	0.04013	98	70	130	2.408	2.9	20	
Antimony	0.549	0.0010	0.5	0.0005828	110	70	130	0.5472	0.4	20	
Arsenic	0.505	0.0010	0.5	0.004763	100	70	130	0.4933	2.4	20	
Barium	0.560	0.050	0.5	0.04517	103	70	130	0.5346	4.6	20	
Beryllium	0.232	0.0010	0.25	0	93	70	130	0.221	4.9	20	
Cadmium	0.254	0.0010	0.25	0.0002377	102	70	130	0.2419	4.9	20	
Chromium	0.524	0.0050	0.5	0.0002588	105	70	130	0.5043	3.9	20	
Cobalt	0.508	0.0050	0.5	0.0001011	102	70	130	0.4895	3.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 103** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.528	0.0050	0.5	0.02175	**101**	70	130	0.5317	**0.6**	20	
Iron	2.60	0.020	2.5	0.1067	**100**	70	130	2.516	**3.3**	20	
Lead	0.517	0.0010	0.5	0.0005541	**103**	70	130	0.502	**2.9**	20	
Manganese	2.57	0.0010	2.5	0.07368	**100**	70	130	2.511	**2.5**	20	
Molybdenum	0.540	0.0010	0.5	0.00565	**107**	70	130	0.5439	**0.7**	20	
Nickel	0.497	0.0050	0.5	0.0009528	**99**	70	130	0.4878	**1.9**	20	
Selenium	0.499	0.0010	0.5	0.0004035	**100**	70	130	0.4847	**2.8**	20	
Silver	0.0523	0.0010	0.05	0	**105**	70	130	0.04982	**4.9**	20	
Uranium	0.501	0.00030	0.5	0.005503	**99**	70	130	0.508	**1.3**	20	
Vanadium	0.516	0.010	0.5	0.00305	**103**	70	130	0.5023	**2.7**	20	
Zinc	0.569	0.010	0.5	0.085	**97**	70	130	0.5545	**2.5**	20	

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43128

Run ID :Run Order: **FIA203-HE_180918B: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **A4500 N-C**
Analysis Date: **09/18/18 13:50** Units: **mg/L** **Prep Info:** Prep Date: **8/1/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.01	0.10	1	0	101	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **FIA203-HE_180918B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-43128** Method: **A4500 N-C**
Analysis Date: **09/18/18 13:51** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	7.81	0.30	7.44	0	105	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **FIA203-HE_180918B: 12** SampType: **Method Blank** Lab ID: **MB-43128** Method: **A4500 N-C**
Analysis Date: **09/18/18 13:55** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.03									

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **FIA203-HE_180918B: 28** SampType: **Sample Matrix Spike** Lab ID: **H18090302-003AMS** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:14** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.08	0.10	1	0.09374	99	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **FIA203-HE_180918B: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-003AMSD** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:15** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.11	0.10	1	0.09374	101	90	110	1.081	2.4	20	

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43134

Run ID :Run Order: **FIA202-HE_180918B: 57** SampType: **Method Blank** Lab ID: **MB-43134** Method: **E365.1**
Analysis Date: **09/18/18 15:58** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0004									

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA202-HE_180918B: 58** SampType: **Laboratory Control Sample** Lab ID: **LCS-43134** Method: **E365.1**
Analysis Date: **09/18/18 15:59** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.396	0.010	0.4	0	**99**	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA202-HE_180918B: 78** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001DMS** Method: **E365.1**
Analysis Date: **09/18/18 16:26** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.276	0.010	0.2	0.0761	**100**	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA202-HE_180918B: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001DMSD** Method: **E365.1**
Analysis Date: **09/18/18 16:27** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.289	0.010	0.2	0.0761	**106**	90	110	0.2755	**4.7**	20	

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43136

Run ID :Run Order: **HGCV202-H_180919A: 11** SampType: **Method Blank** Lab ID: **MB-43136** Method: **E245.1**
Analysis Date: **09/19/18 11:51** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Run ID :Run Order: **HGCV202-H_180919A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43136** Method: **E245.1**
Analysis Date: **09/19/18 11:54** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.70E-05	0.00010	0.000075	0	103	90	110				

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Run ID :Run Order: **HGCV202-H_180919A: 17** SampType: **Sample Matrix Spike** Lab ID: **H18090278-001CMS** Method: **E245.1**
Analysis Date: **09/19/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.76E-05	0.00010	0.000075	0.00000122	102	70	130				

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Run ID :Run Order: **HGCV202-H_180919A: 18** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090278-001CMSD** Method: **E245.1**
Analysis Date: **09/19/18 12:13** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.61E-05	1.0E-05	0.000075	0.00000122	100	70	130	0.00007765	2.0	20	

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICP2-HE_180925B: 31** SampType: **Method Blank** Lab ID: **MB-43208** Method: **SW6010B**

Analysis Date: **09/25/18 15:19** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	0.3	0.2									
Cobalt	ND	0.5									
Copper	ND	0.6									
Iron	20	10									
Manganese	ND	0.2									
Vanadium	ND	0.3									
Zinc	ND	0.6									

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 32** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43208** Method: **SW6010B**

Analysis Date: **09/25/18 15:22** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	243	5.0	238.5	0	**102**	80	120				
Boron	49.3	1.0	47.7	0.2831	**103**	80	120				
Cobalt	49.3	1.0	47.7	0	**103**	80	120				
Copper	48.7	1.0	47.7	0	**102**	80	120				
Iron	260	10	238.5	21.88	**100**	80	120				
Manganese	251	1.0	238.5	0	**105**	80	120				
Vanadium	50.0	1.0	47.7	0	**105**	80	120				
Zinc	49.9	1.0	47.7	0	**105**	80	120				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 33** SampType: **Laboratory Control Sample** Lab ID: **LCS-43208** Method: **SW6010B**

Analysis Date: **09/25/18 15:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8700	9.5	9830	0	**88**	46.3	130.2				
Boron	114	1.0	129	0.2831	**88**	59.5	106.2				
Cobalt	109	2.3	108	0	**101**	74.2	105.6				
Copper	124	2.7	137	0	**91**	76.6	108.8				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43208

Run ID :Run Order: **ICP2-HE_180925B: 33** SampType: **Laboratory Control Sample** Lab ID: **LCS-43208** Method: **SW6010B**

Analysis Date: **09/25/18 15:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	15200	53	16300	21.88	93	51.7	131.9				
Manganese	448	1.0	434	0	103	81.1	116.6				
Vanadium	111	1.3	114	0	97	67	107				
Zinc	251	2.9	231	0	109	75.3	111.7				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 44** SampType: **Serial Dilution** Lab ID: **H18090302-007ADIL** Method: **SW6010B**

Analysis Date: **09/25/18 16:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4060	59		0		0	0	4022	0.9	10	
Boron	ND	5.7		0		0	0	1.404		10	
Cobalt	ND	15		0		0	0	0		10	
Copper	32.6	17		0		0	0	30.46		10	N
Iron	15500	330		0		0	0	14720	5.4	10	
Manganese	164	5.1		0		0	0	160	2.6	10	
Vanadium	48.7	7.9		0		0	0	44.28		10	N
Zinc	86.3	18		0		0	0	84.04		10	N

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-007APDS** Method: **SW6010B**

Analysis Date: **09/25/18 16:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5550	12	1557	4022	98	75	125				
Boron	301	1.2	311.5	1.404	96	75	125				
Cobalt	310	3.0	311.5	0	99	75	125				
Copper	327	3.4	311.5	30.46	95	75	125				
Iron	16500	68	1557	14720		75	125				A
Manganese	1710	1.0	1557	160	100	75	125				
Vanadium	356	1.6	311.5	44.28	100	75	125				
Zinc	395	3.7	311.5	84.04	100	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICP2-HE_180925B: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-007APDS** Method: **SW6010B**

Analysis Date: **09/25/18 16:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 46** SampType: **Sample Matrix Spike** Lab ID: **H18090302-007AMS** Method: **SW6010B**

Analysis Date: **09/25/18 16:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4730	12	310.4	4022		75	125				A
Boron	67.5	1.2	62.08	1.404	107	75	125				
Cobalt	73.8	3.0	62.08	0	119	75	125				
Copper	87.8	3.4	62.08	30.46	92	75	125				
Iron	15200	68	310.4	14720		75	125				A
Manganese	508	1.0	310.4	160	112	75	125				
Vanadium	113	1.6	62.08	44.28	111	75	125				
Zinc	183	3.7	62.08	84.04	159	75	125				S

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-007AMSD** Method: **SW6010B**

Analysis Date: **09/25/18 16:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4650	12	315.5	4022		75	125	4734	1.9	20	A
Boron	65.0	1.2	63.09	1.404	101	75	125	67.54	3.8	20	
Cobalt	67.5	3.0	63.09	0	107	75	125	73.84	9.0	20	
Copper	94.5	3.5	63.09	30.46	101	75	125	87.79	7.3	20	
Iron	14300	69	315.5	14720		75	125	15210	6.0	20	A
Manganese	521	1.1	315.5	160	114	75	125	507.7	2.5	20	
Vanadium	108	1.7	63.09	44.28	100	75	125	113.3	5.2	20	
Zinc	163	3.8	63.09	84.04	125	75	125	182.8	12	20	

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICP2-HE_180925B: 50** SampType: **Serial Dilution** Lab ID: **H18090302-009ADIL** Method: **SW6010B**

Analysis Date: **09/25/18 16:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	22200	120		0		0	0	21270	4.5	10	
Boron	15.8	11		0		0	0	11.34		10	N
Cobalt	ND	28		0		0	0	17.14		10	
Copper	3300	32		0		0	0	3180	3.6	10	
Iron	54500	640		0		0	0	50250	8.2	10	
Manganese	2410	9.9		0		0	0	2293	5.2	10	
Vanadium	119	15		0		0	0	105.9		10	N
Zinc	3640	36		0		0	0	3491	4.3	10	

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 51** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-009APDS** Method: **SW6010B**

Analysis Date: **09/25/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23900	24	3041	21270		75	125				A
Boron	579	2.3	608.1	11.34	93	75	125				
Cobalt	583	5.9	608.1	17.14	93	75	125				
Copper	3730	6.7	608.1	3180		75	125				A
Iron	52400	130	3041	50250		75	125				A
Manganese	5080	2.0	3041	2293	92	75	125				
Vanadium	682	3.2	608.1	105.9	95	75	125				
Zinc	4140	7.3	608.1	3491		75	125				A

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 54** SampType: **Sample Matrix Spike** Lab ID: **H18090302-009AMS** Method: **SW6010B**

Analysis Date: **09/25/18 16:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23700	22	560.5	21270		75	125				A
Boron	122	2.1	112.1	11.34	98	75	125				
Cobalt	127	5.4	112.1	17.14	98	75	125				
Copper	3200	6.2	112.1	3180		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICP2-HE_180925B: 54** SampType: **Sample Matrix Spike** Lab ID: **H18090302-009AMS** Method: **SW6010B**

Analysis Date: **09/25/18 16:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	49200	120	560.5	50250		75	125				A
Manganese	2760	1.9	560.5	2293		75	125				A
Vanadium	217	2.9	112.1	105.9	99	75	125				
Zinc	3570	6.8	112.1	3491		75	125				A

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 55** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-009AMSD** Method: **SW6010B**

Analysis Date: **09/25/18 16:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25200	22	555.5	21270		75	125	23730	5.9	20	A
Boron	124	2.1	111.1	11.34	102	75	125	121.6	2.2	20	
Cobalt	127	5.3	111.1	17.14	99	75	125	127.2	0.3	20	
Copper	3280	6.1	111.1	3180		75	125	3196	2.7	20	A
Iron	51000	120	555.5	50250		75	125	49190	3.6	20	A
Manganese	2830	1.9	555.5	2293		75	125	2758	2.6	20	A
Vanadium	219	2.9	111.1	105.9	102	75	125	216.9	0.9	20	
Zinc	3690	6.7	111.1	3491		75	125	3566	3.3	20	A

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 72** SampType: **Method Blank** Lab ID: **MB-43208** Method: **SW6020**

Analysis Date: **09/25/18 12:13** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	0.07	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	0.2	0.1									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 80** SampType: **Laboratory Control Sample** Lab ID: **LCS-43208** Method: **SW6020**

Analysis Date: **09/25/18 12:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	69.8	1.0	240	0	**29**	0	92.9				
Arsenic	177	1.0	196	0.07299	**90**	71.4	105.1				
Barium	189	1.0	187	0	**101**	78.6	112.8				
Beryllium	81.2	1.0	83.6	0	**97**	76.2	108				
Cadmium	100	1.0	99	0	**101**	73.9	106.1				
Calcium	6160	420	6360	0	**97**	78.9	113.5				
Chromium	114	1.0	117	0.2048	**97**	73.5	108.5				
Lead	112	1.0	105	0	**107**	74.4	108.6				
Molybdenum	122	1.0	127	0	**96**	66.5	103.1				
Nickel	85.3	1.0	86.2	0	**99**	72.3	105				
Selenium	204	1.0	205	0	**99**	71.2	110.2				
Silver	43.6	1.0	42.1	0	**104**	70.8	111.9				
Uranium	101	1.0	99.9	0	**101**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 80** SampType: **Laboratory Control Sample** Lab ID: **LCS-43208** Method: **SW6020**

Analysis Date: **09/25/18 12:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 81** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43208** Method: **SW6020**

Analysis Date: **09/25/18 12:31** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.2	1.0	47.7	0	107	80	120				
Arsenic	49.1	1.0	47.7	0.07299	103	80	120				
Barium	50.2	1.0	47.7	0	105	80	120				
Beryllium	23.6	1.0	23.85	0	99	80	120				
Cadmium	25.1	1.0	23.85	0	105	80	120				
Calcium	2320	410	2385	0	97	80	120				
Chromium	49.5	1.0	47.7	0.2048	103	80	120				
Lead	50.2	1.0	47.7	0	105	80	120				
Molybdenum	51.5	1.0	47.7	0	108	80	120				
Nickel	50.4	1.0	47.7	0	106	80	120				
Selenium	48.4	1.0	47.7	0	102	80	120				
Silver	25.8	1.0	23.85	0	108	80	120				
Uranium	50.1	1.0	47.7	0	105	80	120				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 87** SampType: **Serial Dilution** Lab ID: **H18090302-007ADIL** Method: **SW6020**

Analysis Date: **09/25/18 12:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.1		0		0	0	0		10	
Arsenic	4.60	1.2		0		0	0	4.69		10	N
Barium	48.7	5.6		0		0	0	49.35		10	N
Beryllium	ND	1.8		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.1213		10	
Calcium	3470	2600		0		0	0	3362		10	N
Chromium	13.1	3.7		0		0	0	12.9		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 87** SampType: **Serial Dilution** Lab ID: **H18090302-007ADIL** Method: **SW6020**

Analysis Date: **09/25/18 12:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	13.0	2.2		0		0	0	13.12		10	N
Molybdenum	1.16	1.0		0		0	0	1.189		10	N
Nickel	3.54	2.3		0		0	0	3.512		10	N
Selenium	ND	2.1		0		0	0	0		10	
Silver	ND	1.0		0		0	0	0		10	
Uranium	1.84	1.0		0		0	0	1.862		10	N

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 90** SampType: **Serial Dilution** Lab ID: **H18090302-009ADIL** Method: **SW6020**

Analysis Date: **09/25/18 12:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	10		0		0	0	2.99		10	
Arsenic	352	2.3		0		0	0	341.6	3.1	10	
Barium	360	11		0		0	0	354.5	1.5	10	
Beryllium	ND	3.5		0		0	0	0.9729		10	
Cadmium	18.6	1.1		0		0	0	17.77	4.4	10	
Calcium	13900	5100		0		0	0	13240		10	N
Chromium	67.4	7.1		0		0	0	65.17		10	N
Lead	801	4.3		0		0	0	755.2	5.8	10	
Molybdenum	17.5	2.0		0		0	0	17.24		10	N
Nickel	28.1	4.4		0		0	0	26.83		10	N
Selenium	ND	4.1		0		0	0	1.919		10	
Silver	10.5	2.0		0		0	0	10.56		10	N
Uranium	11.7	1.2		0		0	0	11.17		10	N

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 91** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-007APDS1** Method: **SW6020**

Analysis Date: **09/25/18 12:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	31.0	1.0	30.24	0	103	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 91** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-007APDS1** Method: **SW6020**

Analysis Date: **09/25/18 12:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	34.7	1.0	30.24	4.69	99	75	125				
Barium	80.8	1.1	30.24	49.35	104	75	125				
Beryllium	28.9	1.0	30.24	0	96	75	125				
Cadmium	30.9	1.0	30.24	0.1213	102	75	125				
Calcium	3930	530	604.8	3362		75	125				A
Chromium	43.2	1.0	30.24	12.9	100	75	125				
Lead	43.1	1.0	30.24	13.12	99	75	125				
Molybdenum	31.6	1.0	30.24	1.189	100	75	125				
Nickel	34.1	1.0	30.24	3.512	101	75	125				
Selenium	29.9	1.0	30.24	0	99	75	125				
Silver	12.9	1.0	12.1	0	107	75	125				
Uranium	32.4	1.0	30.24	1.862	101	75	125				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 92** SampType: **Sample Matrix Spike** Lab ID: **H18090302-007AMS** Method: **SW6020**

Analysis Date: **09/25/18 12:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.5	1.1	62.08	0	85	75	125				
Arsenic	66.8	1.0	62.08	4.69	100	75	125				
Barium	109	1.2	62.08	49.35	97	75	125				
Beryllium	30.8	1.0	31.04	0	99	75	125				
Cadmium	32.1	1.0	31.04	0.1213	103	75	125				
Calcium	5900	540	3104	3362	82	75	125				E
Chromium	74.9	1.0	62.08	12.9	100	75	125				
Lead	74.9	1.0	62.08	13.12	100	75	125				
Molybdenum	66.0	1.0	62.08	1.189	104	75	125				
Nickel	67.9	1.0	62.08	3.512	104	75	125				
Selenium	61.2	1.0	62.08	0	99	75	125				
Silver	32.8	1.0	31.04	0	106	75	125				
Uranium	64.1	1.0	62.08	1.862	100	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 92** SampType: **Sample Matrix Spike** Lab ID: **H18090302-007AMS** Method: **SW6020**

Analysis Date: **09/25/18 12:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 93** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-007AMSD** Method: **SW6020**

Analysis Date: **09/25/18 12:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.8	1.1	63.09	0	82	75	125	52.54	1.5	20	
Arsenic	67.8	1.0	63.09	4.69	100	75	125	66.8	1.4	20	
Barium	123	1.2	63.09	49.35	117	75	125	109.4	12	20	
Beryllium	30.2	1.0	31.55	0	96	75	125	30.75	1.9	20	
Cadmium	31.4	1.0	31.55	0.1213	99	75	125	32.12	2.2	20	
Calcium	5950	550	3155	3362	82	75	125	5895	0.9	20	E
Chromium	74.3	1.0	63.09	12.9	97	75	125	74.94	0.9	20	
Lead	83.7	1.0	63.09	13.12	112	75	125	74.94	11	20	
Molybdenum	65.0	1.0	63.09	1.189	101	75	125	65.99	1.5	20	
Nickel	66.7	1.0	63.09	3.512	100	75	125	67.86	1.6	20	
Selenium	61.3	1.0	63.09	0	97	75	125	61.18	0.1	20	
Silver	32.3	1.0	31.55	0	102	75	125	32.78	1.5	20	
Uranium	64.0	1.0	63.09	1.862	98	75	125	64.13	0.2	20	

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 94** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-009APDS1** Method: **SW6020**

Analysis Date: **09/25/18 12:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	61.9	2.0	59.04	2.99	100	75	125				
Arsenic	396	1.0	59.04	341.6		75	125				A
Barium	410	2.2	59.04	354.5		75	125				A
Beryllium	58.3	1.0	59.04	0.9729	97	75	125				
Cadmium	76.2	1.0	59.04	17.77	99	75	125				
Calcium	14100	1000	1181	13240		75	125				A
Chromium	122	1.4	59.04	65.17	96	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 94** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-009APDS1** Method: **SW6020**

Analysis Date: **09/25/18 12:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	811	1.0	59.04	755.2		75	125				A
Molybdenum	75.4	1.0	59.04	17.24	98	75	125				
Nickel	85.1	1.0	59.04	26.83	99	75	125				
Selenium	59.5	1.0	59.04	1.919	97	75	125				
Silver	34.9	1.0	23.62	10.56	103	75	125				
Uranium	68.8	1.0	59.04	11.17	98	75	125				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 95** SampType: **Sample Matrix Spike** Lab ID: **H18090302-009AMS** Method: **SW6020**

Analysis Date: **09/25/18 12:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.9	1.9	112.1	2.99	38	75	125				S
Arsenic	450	1.0	112.1	341.6	97	75	125				
Barium	461	2.1	112.1	354.5	95	75	125				
Beryllium	53.7	1.0	56.05	0.9729	94	75	125				
Cadmium	74.4	1.0	56.05	17.77	101	75	125				
Calcium	18200	980	5605	13240	88	75	125				E
Chromium	179	1.4	112.1	65.17	101	75	125				
Lead	875	1.0	112.1	755.2		75	125				A
Molybdenum	128	1.0	112.1	17.24	99	75	125				
Nickel	141	1.0	112.1	26.83	102	75	125				
Selenium	109	1.0	112.1	1.919	96	75	125				
Silver	67.8	1.0	56.05	10.56	102	75	125				
Uranium	121	1.0	112.1	11.17	98	75	125				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43208

Run ID :Run Order: **ICPMS205-H_180925B: 96** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-009AMSD** Method: **SW6020**

Analysis Date: **09/25/18 13:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW3050 B**

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	45.2	1.9	111.1	2.99	38	75	125	45.86	1.5	20	S
Arsenic	460	1.0	111.1	341.6	106	75	125	450.3	2.1	20	
Barium	483	2.1	111.1	354.5	115	75	125	460.8	4.6	20	
Beryllium	55.6	1.0	55.55	0.9729	98	75	125	53.66	3.5	20	
Cadmium	75.5	1.0	55.55	17.77	104	75	125	74.39	1.5	20	
Calcium	19500	970	5555	13240	112	75	125	18170	6.8	20	E
Chromium	184	1.3	111.1	65.17	107	75	125	178.9	2.9	20	
Lead	902	1.0	111.1	755.2		75	125	874.6	3.1	20	A
Molybdenum	133	1.0	111.1	17.24	104	75	125	127.8	3.6	20	
Nickel	145	1.0	111.1	26.83	106	75	125	141.1	2.5	20	
Selenium	112	1.0	111.1	1.919	99	75	125	109.1	2.4	20	
Silver	69.6	1.0	55.55	10.56	106	75	125	67.83	2.6	20	
Uranium	123	1.0	111.1	11.17	101	75	125	121.1	1.9	20	

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43209

Run ID :Run Order: **HGCV201-H_180925A: 10** SampType: **Method Blank** Lab ID: **MB-43209** Method: **SW7471B**
Analysis Date: **09/25/18 13:33** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43209** Method: **SW7471B**
Analysis Date: **09/25/18 13:35** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.192	0	102	80	120				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43209** Method: **SW7471B**
Analysis Date: **09/25/18 13:37** Units: **mg/kg** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.7	0.50	5	0	113	71	126.4				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 15** SampType: **Sample Matrix Spike** Lab ID: **H18090302-006AMS** Method: **SW7471B**
Analysis Date: **09/25/18 13:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.53	0.10	0.3773	0.156	100	80	120				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-006AMSD** Method: **SW7471B**
Analysis Date: **09/25/18 13:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.53	0.10	0.3691	0.156	103	80	120	0.5342	0.1	20	

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43209

Run ID :Run Order: **HGCV201-H_180925A: 23** SampType: **Sample Matrix Spike** Lab ID: **H18090302-007AMS** Method: **SW7471B**

Analysis Date: **09/25/18 14:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.22	0.10	0.1961	0.009719	105	80	120				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 24** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-007AMSD** Method: **SW7471B**

Analysis Date: **09/25/18 14:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.10	0.1986	0.009719	99	80	120	0.215	3.7	20	

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 29** SampType: **Sample Matrix Spike** Lab ID: **H18090302-008AMS** Method: **SW7471B**

Analysis Date: **09/25/18 14:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.18	0.10	0.1931	0.004098	90	80	120				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-008AMSD** Method: **SW7471B**

Analysis Date: **09/25/18 14:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/24/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.10	0.1931	0.004098	100	80	120	0.1775	10	20	

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 93** SampType: **Method Blank** Lab ID: **MB-43229** Method: **SW6010B**
Analysis Date: **10/01/18 21:22** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.6									
Zinc	ND	0.6									

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICP2-HE_181001B: 94** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43229** Method: **SW6010B**
Analysis Date: **10/01/18 21:25** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	46.0	1.0	47.45	0	97	80	120				
Zinc	45.9	1.0	47.45	0	97	80	120				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICP2-HE_181001B: 95** SampType: **Laboratory Control Sample** Lab ID: **LCS-43229** Method: **SW6010B**
Analysis Date: **10/01/18 21:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	119	2.8	139.7	0	85	76.6	108.8				
Zinc	231	3.1	235.6	0	98	75.3	111.7				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICP2-HE_181001B: 133** SampType: **Serial Dilution** Lab ID: **H18090313-001CDIL** Method: **SW6010B**
Analysis Date: **10/01/18 23:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	51.4	15		0		0	0	51.15		10	N
Zinc	84.5	16		0		0	0	79.68		10	N

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICP2-HE_181001B: 136** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090313-001CPDS** Method: **SW6010B**
Analysis Date: **10/02/18 00:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	299	3.0	273.5	51.15	91	75	125				
Zinc	309	3.3	273.5	79.68	84	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 136** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090313-001CPDS** Method: **SW6010B**

Analysis Date: **10/02/18 00:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICP2-HE_181001B: 137** SampType: **Sample Matrix Spike** Lab ID: **H18090313-001CMS** Method: **SW6010B**

Analysis Date: **10/02/18 00:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	98.5	2.9	53.11	51.15	**89**	75	125				
Zinc	125	3.2	53.11	79.68	**85**	75	125				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICP2-HE_181001B: 138** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090313-001CMSD** Method: **SW6010B**

Analysis Date: **10/02/18 00:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	109	3.0	53.99	51.15	**106**	75	125	98.51	**9.7**	20	
Zinc	126	3.3	53.99	79.68	**86**	75	125	124.9	**1.2**	20	

Associated samples: **H18090302-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 28** SampType: **Method Blank** Lab ID: **MB-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.1	0.04									
Cadmium	ND	0.02									
Lead	ND	0.07									

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	167	1.0	199.9	0.1053	84	71.4	105.1				
Cadmium	95.7	1.0	101	0	95	73.9	106.1				
Lead	101	1.0	107.1	0	94	74.4	108.6				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 30** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:30** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.2	1.0	47.45	0.1053	99	80	120				
Cadmium	24.3	1.0	23.72	0	102	80	120				
Lead	47.7	1.0	47.45	0	101	80	120				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 35** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-019APDS1** Method: **SW6020**

Analysis Date: **09/27/18 18:39** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	43.2	1.0	24.15	20.28	95	75	125				
Cadmium	24.9	1.0	24.15	0.9887	99	75	125				
Lead	95.9	1.0	24.15	73.37	93	75	125				

Associated samples: **H18090302-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18090303-019AMS** Method: **SW6020**

Analysis Date: **09/27/18 18:41** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	69.6	1.0	47.65	20.28	104	75	125				
Cadmium	25.1	1.0	23.82	0.9887	101	75	125				
Lead	136	1.0	47.65	73.37	131	75	125				S

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-019AMSD** Method: **SW6020**

Analysis Date: **09/27/18 18:43** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	74.3	1.0	48.05	20.28	112	75	125	69.64	6.4	20	
Cadmium	25.6	1.0	24.02	0.9887	102	75	125	25.06	2.0	20	
Lead	129	1.0	48.05	73.37	116	75	125	135.8	4.9	20	

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 48** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-020APDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:05** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.6	1.0	24.05	15.27	97	75	125				
Cadmium	24.9	1.0	24.05	0.6936	100	75	125				
Lead	85.0	1.0	24.05	59.26	107	75	125				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 51** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-024APDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:10** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	68.9	1.0	25.65	45.42	92	75	125				
Cadmium	30.2	1.0	25.65	4.921	99	75	125				
Lead	225	1.0	25.65	205.1		75	125				A

Associated samples: **H18090302-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 67** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090313-001CPDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	33.3	1.0	26.52	7.934	**96**	75	125				
Cadmium	27.0	1.0	26.52	0.3386	**100**	75	125				
Lead	123	1.0	26.52	97.8	**93**	75	125				

Associated samples: **H18090302-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 141** SampType: **Method Blank** Lab ID: **MB-43247** Method: **SW6010B**
Analysis Date: **10/02/18 00:20** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	20	10									
Manganese	ND	0.2									

Associated samples: **H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 142** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43247** Method: **SW6010B**
Analysis Date: **10/02/18 00:24** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	315	11	252.5	17.06	118	80	120				
Manganese	239	1.0	252.5	0	94	80	120				

Associated samples: **H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 143** SampType: **Laboratory Control Sample** Lab ID: **LCS-43247** Method: **SW6010B**
Analysis Date: **10/02/18 00:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	14600	53	16300	17.06	90	51.7	131.9				
Manganese	389	1.0	434	0	90	81.1	116.6				

Associated samples: **H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 151** SampType: **Serial Dilution** Lab ID: **H18090303-040ADIL** Method: **SW6010B**
Analysis Date: **10/02/18 00:58** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5080	280		0		0	0	4983	1.9	10	
Manganese	326	4.3		0		0	0	321.4	1.5	10	

Associated samples: **H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 152** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-040APDS** Method: **SW6010B**
Analysis Date: **10/02/18 01:02** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	6130	57	1313	4983	88	75	125				
Manganese	1510	1.0	1313	321.4	91	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 152** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-040APDS** Method: **SW6010B**

Analysis Date: **10/02/18 01:02** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 153** SampType: **Sample Matrix Spike** Lab ID: **H18090303-040AMS** Method: **SW6010B**

Analysis Date: **10/02/18 01:05** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5870	55	252.5	4983		75	125				A
Manganese	604	1.0	252.5	321.4	**112**	75	125				

Associated samples: **H18090302-010A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181001B: 154** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-040AMSD** Method: **SW6010B**

Analysis Date: **10/02/18 01:09** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5350	56	257.5	4983		75	125	5874	**9.3**	20	A
Manganese	574	1.0	257.5	321.4	**98**	75	125	603.7	**5.0**	20	

Associated samples: **H18090302-010A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138171

Run ID :Run Order: **PHSC_101-H_180914A: 86** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **09/14/18 15:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **PHSC_101-H_180914A: 87** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/14/18 15:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	**98**	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **PHSC_101-H_180914A: 92** SampType: **Sample Duplicate** Lab ID: **H18090178-006ADUP** Method: **A2320 B**

Analysis Date: **09/14/18 16:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	900	4.0		0				891.8	**0.6**	10	
Bicarbonate as HCO3	1100	4.0		0				1087	**0.6**	10	

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **PHSC_101-H_180914A: 130** SampType: **Sample Duplicate** Lab ID: **H18090302-003ADUP** Method: **A2320 B**

Analysis Date: **09/14/18 18:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				114.3	**0.1**	10	
Bicarbonate as HCO3	140	4.0		0				138.8	**1.1**	10	

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138214

Run ID :Run Order: **IC METROHM_180914A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **09/14/18 15:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **IC METROHM_180914A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **09/14/18 15:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	1.0	100	0	103	90	110				
Sulfate	430	1.0	400	0	107	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **IC METROHM_180914A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **09/14/18 16:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.3	1.0	25	0	101	90	110				
Sulfate	108	1.0	100	0	108	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **IC METROHM_180914A: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **09/15/18 03:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.0	1.0	50	0	106	90	110				
Sulfate	220	1.0	200	0	110	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **IC METROHM_180914A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18090302-002AMS** Method: **E300.0**
Analysis Date: **09/15/18 06:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.8	1.0	25	20.71	100	90	110				
Sulfate	141	1.0	100	34.41	107	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138214

Run ID :Run Order: **IC METROHM_180914A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18090302-002AMS** Method: **E300.0**

Analysis Date: **09/15/18 06:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **IC METROHM_180914A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-002AMSD** Method: **E300.0**

Analysis Date: **09/15/18 06:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.3	1.0	25	20.71	**102**	90	110	45.81	**1.0**	20	
Sulfate	143	1.0	100	34.41	**109**	90	110	141.3	**1.4**	20	

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **IC METROHM_180914A: 61** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **09/15/18 06:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.6	1.0	50	0	**105**	90	110				
Sulfate	220	1.0	200	0	**110**	90	110				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/17/18 11:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.307	0.10	0.3	0	**102**	90	110				
Antimony	0.0644	0.050	0.06	0	**107**	90	110				
Arsenic	0.0610	0.0050	0.06	0	**102**	90	110				
Barium	0.0625	0.10	0.06	0	**104**	90	110				
Beryllium	0.0303	0.0010	0.03	0	**101**	90	110				
Cadmium	0.0314	0.0010	0.03	0	**105**	90	110				
Chromium	0.0615	0.010	0.06	0	**102**	90	110				
Cobalt	0.0619	0.010	0.06	0	**103**	90	110				
Copper	0.0621	0.010	0.06	0	**104**	90	110				
Iron	0.310	0.020	0.3	0	**103**	90	110				
Lead	0.0622	0.010	0.06	0	**104**	90	110				
Manganese	0.310	0.010	0.3	0	**103**	90	110				
Molybdenum	0.0618	0.0050	0.06	0	**103**	90	110				
Nickel	0.0622	0.010	0.06	0	**104**	90	110				
Selenium	0.0613	0.0050	0.06	0	**102**	90	110				
Silver	0.0313	0.0050	0.03	0	**104**	90	110				
Uranium	0.0609	0.00030	0.06	0	**102**	90	110				
Vanadium	0.0607	0.10	0.06	0	**101**	90	110				
Zinc	0.0628	0.010	0.06	0	**105**	90	110				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/17/18 11:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.0	0.10	40	0	**100**	70	130				
Antimony	0.000212	0.050		0							
Arsenic	6.82E-05	0.0050		0							
Barium	9.29E-05	0.10		0							
Beryllium	-1.27E-05	0.0010		0							
Cadmium	0.000247	0.0010		0							
Chromium	0.00122	0.010		0							
Cobalt	-2.49E-05	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/17/18 11:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000121	0.010		0							
Iron	97.4	0.020	100	0	97	70	130				
Lead	0.000763	0.010		0							
Manganese	0.000210	0.010		0							
Molybdenum	0.864	0.0050	0.8	0	108	70	130				
Nickel	8.25E-05	0.010		0							
Selenium	0.000126	0.0050		0							
Silver	7.23E-05	0.0050		0							
Uranium	1.80E-05	0.00030		0							
Vanadium	5.14E-05	0.10		0							
Zinc	0.000331	0.010		0							

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.5	0.10	40	0	99	70	130				
Antimony	0.000104	0.050		0		0	0				
Arsenic	0.00997	0.0050	0.01	0	100	70	130				
Barium	4.04E-05	0.10		0		0	0				
Beryllium	-1.99E-05	0.0010		0		0	0				
Cadmium	0.0100	0.0010	0.01	0	100	70	130				
Chromium	0.0204	0.010	0.02	0	102	70	130				
Cobalt	0.0192	0.010	0.02	0	96	70	130				
Copper	0.0190	0.010	0.02	0	95	70	130				
Iron	95.9	0.020	100	0	96	70	130				
Lead	0.000454	0.010		0		0	0				
Manganese	0.0198	0.010	0.02	0	99	70	130				
Molybdenum	0.849	0.0050	0.8	0	106	70	130				
Nickel	0.0192	0.010	0.02	0	96	70	130				
Selenium	0.00959	0.0050	0.01	0	96	70	130				
Silver	0.0197	0.0050	0.02	0	98	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.72E-06	0.00030		0		0	0				
Vanadium	0.0194	0.10	0.02	0	97	70	130				
Zinc	0.00969	0.010	0.01	0	97	70	130				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/17/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	0.003	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/17/18 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	85	115				
Antimony	0.0538	0.050	0.05	0	108	85	115				
Arsenic	0.0509	0.0050	0.05	0	102	85	115				
Barium	0.0524	0.10	0.05	0	105	85	115				
Beryllium	0.0494	0.0010	0.05	0	99	85	115				
Cadmium	0.0523	0.0010	0.05	0	105	85	115				
Chromium	0.0508	0.010	0.05	0	102	85	115				
Cobalt	0.0508	0.010	0.05	0	102	85	115				
Copper	0.0514	0.010	0.05	0	103	85	115				
Iron	0.153	0.020	0.15	0.003267	100	85	115				
Lead	0.0510	0.010	0.05	0	102	85	115				
Manganese	0.0507	0.010	0.05	0	101	85	115				
Molybdenum	0.0510	0.0050	0.05	0	102	85	115				
Nickel	0.0512	0.010	0.05	0	102	85	115				
Selenium	0.0501	0.0050	0.05	0	100	85	115				
Silver	0.0212	0.0050	0.02	0	106	85	115				
Uranium	0.0502	0.00030	0.05	0	100	85	115				
Vanadium	0.0496	0.10	0.05	0	99	85	115				
Zinc	0.0513	0.010	0.05	0	103	85	115				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 28** SampType: **Sample Matrix Spike** Lab ID: **H18090301-001AMS** Method: **E200.8**

Analysis Date: **09/17/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.030	0.05	0	103	70	130				
Antimony	0.0526	0.0010	0.05	0	105	70	130				
Arsenic	0.0515	0.0010	0.05	0.001712	100	70	130				
Barium	0.0513	0.050	0.05	0	103	70	130				
Beryllium	0.0486	0.0010	0.05	0	97	70	130				
Cadmium	0.0510	0.0010	0.05	0	102	70	130				
Chromium	0.0495	0.0050	0.05	0.0005629	98	70	130				
Cobalt	0.0497	0.0050	0.05	0	99	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 28** SampType: **Sample Matrix Spike** Lab ID: **H18090301-001AMS** Method: **E200.8**

Analysis Date: **09/17/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0526	0.0050	0.05	0.002887	100	70	130				
Iron	0.152	0.020	0.15	0.00214	100	70	130				
Lead	0.0506	0.0010	0.05	0.0001118	101	70	130				
Manganese	0.0494	0.0010	0.05	0	99	70	130				
Molybdenum	0.0522	0.0010	0.05	0.002195	100	70	130				
Nickel	0.0497	0.0050	0.05	0	99	70	130				
Selenium	0.0501	0.0010	0.05	0.001255	98	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Uranium	0.0525	0.00030	0.05	0.001058	103	70	130				
Vanadium	0.0503	0.010	0.05	0.00178	97	70	130				
Zinc	0.0621	0.010	0.05	0.01244	99	70	130				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090301-001AMSD** Method: **E200.8**

Analysis Date: **09/17/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0513	0.030	0.05	0	103	70	130	0.05165	0.7	20	
Antimony	0.0533	0.0010	0.05	0	107	70	130	0.05256	1.5	20	
Arsenic	0.0519	0.0010	0.05	0.001712	100	70	130	0.05149	0.8	20	
Barium	0.0524	0.050	0.05	0	105	70	130	0.05131	2.0	20	
Beryllium	0.0485	0.0010	0.05	0	97	70	130	0.04862	0.2	20	
Cadmium	0.0516	0.0010	0.05	0	103	70	130	0.05099	1.3	20	
Chromium	0.0495	0.0050	0.05	0.0005629	98	70	130	0.04947	0.1	20	
Cobalt	0.0495	0.0050	0.05	0	99	70	130	0.04966	0.3	20	
Copper	0.0524	0.0050	0.05	0.002887	99	70	130	0.05264	0.4	20	
Iron	0.151	0.020	0.15	0.00214	99	70	130	0.1524	0.9	20	
Lead	0.0516	0.0010	0.05	0.0001118	103	70	130	0.05063	1.9	20	
Manganese	0.0497	0.0010	0.05	0	99	70	130	0.04944	0.6	20	
Molybdenum	0.0531	0.0010	0.05	0.002195	102	70	130	0.05225	1.6	20	
Nickel	0.0499	0.0050	0.05	0	100	70	130	0.04974	0.3	20	
Selenium	0.0494	0.0010	0.05	0.001255	96	70	130	0.0501	1.3	20	
Silver	0.0205	0.0010	0.02	0	102	70	130	0.02022	1.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090301-001AMSD** Method: **E200.8**

Analysis Date: **09/17/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0524	0.00030	0.05	0.001058	**103**	70	130	0.05251	**0.2**	20	
Vanadium	0.0505	0.010	0.05	0.00178	**97**	70	130	0.05026	**0.4**	20	
Zinc	0.0620	0.010	0.05	0.01244	**99**	70	130	0.06214	**0.3**	20	

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 192** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/17/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.298	0.10	0.3	0	**99**	90	110				
Antimony	0.0609	0.050	0.06	0	**102**	90	110				
Arsenic	0.0593	0.0050	0.06	0	**99**	90	110				
Barium	0.0583	0.10	0.06	0	**97**	90	110				
Beryllium	0.0292	0.0010	0.03	0	**97**	90	110				
Cadmium	0.0296	0.0010	0.03	0	**99**	90	110				
Chromium	0.0598	0.010	0.06	0	**100**	90	110				
Cobalt	0.0603	0.010	0.06	0	**101**	90	110				
Copper	0.0602	0.010	0.06	0	**100**	90	110				
Iron	0.302	0.020	0.3	0	**101**	90	110				
Lead	0.0573	0.010	0.06	0	**95**	90	110				
Manganese	0.301	0.010	0.3	0	**100**	90	110				
Molybdenum	0.0588	0.0050	0.06	0	**98**	90	110				
Nickel	0.0602	0.010	0.06	0	**100**	90	110				
Selenium	0.0619	0.0050	0.06	0	**103**	90	110				
Silver	0.0295	0.0050	0.03	0	**98**	90	110				
Uranium	0.0557	0.00030	0.06	0	**93**	90	110				
Vanadium	0.0591	0.10	0.06	0	**98**	90	110				
Zinc	0.0610	0.010	0.06	0	**102**	90	110				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 193** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/17/18 17:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.9	0.10	40	0	100	70	130				
Antimony	0.000206	0.050		0							
Arsenic	8.39E-05	0.0050		0							
Barium	8.36E-05	0.10		0							
Beryllium	5.05E-05	0.0010		0							
Cadmium	0.000231	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	1.56E-05	0.010		0							
Copper	0.000141	0.010		0							
Iron	95.5	0.020	100	0	96	70	130				
Lead	6.19E-05	0.010		0							
Manganese	0.000177	0.010		0							
Molybdenum	0.806	0.0050	0.8	0	101	70	130				
Nickel	9.17E-05	0.010		0							
Selenium	0.000195	0.0050		0							
Silver	6.04E-05	0.0050		0							
Uranium	1.73E-05	0.00030		0							
Vanadium	2.44E-05	0.10		0							
Zinc	0.000389	0.010		0							

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICPMS205-H_180917A: 194** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.0	0.10	40	0	98	70	130				
Antimony	9.79E-05	0.050		0		0	0				
Arsenic	0.00982	0.0050	0.01	0	98	70	130				
Barium	3.71E-05	0.10		0		0	0				
Beryllium	3.77E-05	0.0010		0		0	0				
Cadmium	0.00935	0.0010	0.01	0	93	70	130				
Chromium	0.0202	0.010	0.02	0	101	70	130				
Cobalt	0.0190	0.010	0.02	0	95	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 194** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0189	0.010	0.02	0	94	70	130				
Iron	96.9	0.020	100	0	97	70	130				
Lead	4.81E-05	0.010		0		0	0				
Manganese	0.0193	0.010	0.02	0	97	70	130				
Molybdenum	0.785	0.0050	0.8	0	98	70	130				
Nickel	0.0189	0.010	0.02	0	94	70	130				
Selenium	0.00977	0.0050	0.01	0	98	70	130				
Silver	0.0180	0.0050	0.02	0	90	70	130				
Uranium	5.21E-06	0.00030		0		0	0				
Vanadium	0.0192	0.10	0.02	0	96	70	130				
Zinc	0.00942	0.010	0.01	0	94	70	130				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/17/18 11:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.811	0.10	0.8	0	**101**	95	105				
Calcium	39.6	1.0	40	0	**99**	95	105				
Magnesium	39.6	1.0	40	0	**99**	95	105				
Potassium	40.2	1.0	40	0	**100**	95	105				
Sodium	40.2	1.0	40	0	**100**	95	105				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/17/18 11:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	**99**	95	105				
Calcium	25.3	1.0	25	0	**101**	95	105				
Magnesium	25.1	1.0	25	0	**101**	95	105				
Potassium	25.8	1.0	25	0	**103**	95	105				
Sodium	25.8	1.0	25	0	**103**	95	105				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/17/18 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00275	0.10		0		0	0				
Calcium	475	1.0	500	0	**95**	80	120				
Magnesium	523	1.0	500	0	**105**	80	120				
Potassium	-0.0192	1.0		0		0	0				
Sodium	0.0216	1.0		0		0	0				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/17/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.958	0.10	1	0	**96**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/17/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	465	1.0	500	0	93	80	120				
Magnesium	512	1.0	500	0	102	80	120				
Potassium	19.3	1.0	20	0	97	80	120				
Sodium	19.2	1.0	20	0	96	80	120				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 14** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **09/17/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 15** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **09/17/18 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.965	0.10	1	0	97	85	115				
Calcium	51.7	1.0	50	0	103	85	115				
Magnesium	52.3	1.0	50	0	105	85	115				
Potassium	53.6	1.0	50	0	107	85	115				
Sodium	53.6	1.0	50	0	107	85	115				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/17/18 12:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				
Calcium	25.2	1.0	25	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/17/18 12:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.9	1.0	25	0	100	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	25.2	1.0	25	0	101	90	110				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 42** SampType: **Sample Matrix Spike** Lab ID: **H18090303-003BMS2** Method: **E200.7**

Analysis Date: **09/17/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.06	0.050	1	0.07543	98	70	130				
Calcium	105	1.0	50	52.82	104	70	130				
Magnesium	65.2	1.0	50	13.7	103	70	130				
Potassium	56.4	1.0	50	5.663	101	70	130				
Sodium	82.9	1.0	50	31.7	102	70	130				

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Run ID :Run Order: **ICP2-HE_180917B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-003BMSD2** Method: **E200.7**

Analysis Date: **09/17/18 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.07543	98	70	130	1.057	0.6	20	
Calcium	104	1.0	50	52.82	102	70	130	104.6	0.5	20	
Magnesium	64.8	1.0	50	13.7	102	70	130	65.24	0.6	20	
Potassium	55.8	1.0	50	5.663	100	70	130	56.4	1.0	20	
Sodium	82.2	1.0	50	31.7	101	70	130	82.86	0.7	20	

Associated samples: **H18090302-001B, H18090302-002B, H18090302-003B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138227

Run ID :Run Order: **FIA203-HE_180917B: 7** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **09/17/18 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180917B: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **09/17/18 11:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.5	0.50	10.3	0	102	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180917B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **09/17/18 11:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.510	0.050	0.5	0	102	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180917B: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **09/17/18 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.03	0.055	1	0	103	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180917B: 12** SampType: **Sample Matrix Spike** Lab ID: **H18090248-006CMS** Method: **E350.1**
Analysis Date: **09/17/18 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	40.3	1.1	20	21.92	92	80	120				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138227

Run ID :Run Order: **FIA203-HE_180917B: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090248-006CMSD** Method: **E350.1**

Analysis Date: **09/17/18 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	40.0	1.1	20	21.92	**90**	80	120	40.28	**0.7**	10	

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/18/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.304	0.10	0.3	0	101	90	110				
Antimony	0.0638	0.050	0.06	0	106	90	110				
Arsenic	0.0613	0.0050	0.06	0	102	90	110				
Barium	0.0612	0.10	0.06	0	102	90	110				
Beryllium	0.0310	0.0010	0.03	0	103	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0619	0.010	0.06	0	103	90	110				
Cobalt	0.0618	0.010	0.06	0	103	90	110				
Copper	0.0624	0.010	0.06	0	104	90	110				
Iron	0.317	0.020	0.3	0	106	90	110				
Lead	0.0614	0.010	0.06	0	102	90	110				
Manganese	0.312	0.010	0.3	0	104	90	110				
Molybdenum	0.0612	0.0050	0.06	0	102	90	110				
Nickel	0.0621	0.010	0.06	0	103	90	110				
Selenium	0.0608	0.0050	0.06	0	101	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Uranium	0.0600	0.00030	0.06	0	100	90	110				
Vanadium	0.0615	0.10	0.06	0	103	90	110				
Zinc	0.0628	0.010	0.06	0	105	90	110				

Associated samples: **H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/18/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.3	0.10	40	0	101	70	130				
Antimony	0.000229	0.050		0							
Arsenic	8.19E-05	0.0050		0							
Barium	8.95E-05	0.10		0							
Beryllium	-5.09E-05	0.0010		0							
Cadmium	0.000243	0.0010		0							
Chromium	0.00118	0.010		0							
Cobalt	-6.74E-06	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/18/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000120	0.010		0							
Iron	100	0.020	100	0	100	70	130				
Lead	2.65E-05	0.010		0							
Manganese	0.000187	0.010		0							
Molybdenum	0.836	0.0050	0.8	0	105	70	130				
Nickel	0.000104	0.010		0							
Selenium	0.000179	0.0050		0							
Silver	7.92E-05	0.0050		0							
Uranium	2.08E-05	0.00030		0							
Vanadium	4.70E-05	0.10		0							
Zinc	0.000328	0.010		0							

Associated samples: **H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.9	0.10	40	0	102	70	130				
Antimony	0.000110	0.050		0		0	0				
Arsenic	0.0105	0.0050	0.01	0	105	70	130				
Barium	4.06E-05	0.10		0		0	0				
Beryllium	-7.40E-05	0.0010		0		0	0				
Cadmium	0.0103	0.0010	0.01	0	103	70	130				
Chromium	0.0214	0.010	0.02	0	107	70	130				
Cobalt	0.0202	0.010	0.02	0	101	70	130				
Copper	0.0200	0.010	0.02	0	100	70	130				
Iron	103	0.020	100	0	103	70	130				
Lead	4.29E-06	0.010		0		0	0				
Manganese	0.0204	0.010	0.02	0	102	70	130				
Molybdenum	0.861	0.0050	0.8	0	108	70	130				
Nickel	0.0201	0.010	0.02	0	101	70	130				
Selenium	0.0101	0.0050	0.01	0	101	70	130				
Silver	0.0199	0.0050	0.02	0	100	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	6.10E-06	0.00030		0		0	0				
Vanadium	0.0204	0.10	0.02	0	102	70	130				
Zinc	0.0102	0.010	0.01	0	102	70	130				

Associated samples: **H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/18/18 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.308	0.10	0.3	0	103	90	110				
Antimony	0.0637	0.050	0.06	0	106	90	110				
Arsenic	0.0614	0.0050	0.06	0	102	90	110				
Barium	0.0620	0.10	0.06	0	103	90	110				
Beryllium	0.0301	0.0010	0.03	0	100	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0609	0.010	0.06	0	101	90	110				
Cobalt	0.0615	0.010	0.06	0	103	90	110				
Copper	0.0622	0.010	0.06	0	104	90	110				
Iron	0.308	0.020	0.3	0	103	90	110				
Lead	0.0599	0.010	0.06	0	100	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0614	0.0050	0.06	0	102	90	110				
Nickel	0.0625	0.010	0.06	0	104	90	110				
Selenium	0.0614	0.0050	0.06	0	102	90	110				
Silver	0.0310	0.0050	0.03	0	103	90	110				
Uranium	0.0601	0.00030	0.06	0	100	90	110				
Vanadium	0.0612	0.10	0.06	0	102	90	110				
Zinc	0.0620	0.010	0.06	0	103	90	110				

Associated samples: **H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/18/18 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.4	0.10	40	0	104	70	130				
Antimony	0.000220	0.050		0							
Arsenic	7.58E-05	0.0050		0							
Barium	8.53E-05	0.10		0							
Beryllium	5.40E-05	0.0010		0							
Cadmium	0.000256	0.0010		0							
Chromium	0.00122	0.010		0							
Cobalt	1.28E-05	0.010		0							
Copper	0.000159	0.010		0							
Iron	101	0.020	100	0	101	70	130				
Lead	6.83E-05	0.010		0							
Manganese	0.000184	0.010		0							
Molybdenum	0.858	0.0050	0.8	0	107	70	130				
Nickel	9.84E-05	0.010		0							
Selenium	0.000349	0.0050		0							
Silver	7.70E-05	0.0050		0							
Uranium	1.87E-05	0.00030		0							
Vanadium	4.91E-05	0.10		0							
Zinc	0.000384	0.010		0							

Associated samples: **H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 10:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.0	0.10	40	0	102	70	130				
Antimony	0.000105	0.050		0		0	0				
Arsenic	0.0103	0.0050	0.01	0	103	70	130				
Barium	6.00E-05	0.10		0		0	0				
Beryllium	2.30E-05	0.0010		0		0	0				
Cadmium	0.0104	0.0010	0.01	0	104	70	130				
Chromium	0.0214	0.010	0.02	0	107	70	130				
Cobalt	0.0202	0.010	0.02	0	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 10:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0200	0.010	0.02	0	100	70	130				
Iron	101	0.020	100	0	101	70	130				
Lead	5.72E-05	0.010		0		0	0				
Manganese	0.0204	0.010	0.02	0	102	70	130				
Molybdenum	0.875	0.0050	0.8	0	109	70	130				
Nickel	0.0202	0.010	0.02	0	101	70	130				
Selenium	0.0102	0.0050	0.01	0	102	70	130				
Silver	0.0203	0.0050	0.02	0	102	70	130				
Uranium	6.94E-06	0.00030		0		0	0				
Vanadium	0.0204	0.10	0.02	0	102	70	130				
Zinc	0.00988	0.010	0.01	0	99	70	130				

Associated samples: **H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICPMS205-H_180918A: 35** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/18/18 10:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.0003									

Associated samples: **H18090302-002B**

Run ID :Run Order: **ICPMS205-H_180918A: 36** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/18/18 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0509	0.010	0.05	0	102	85	115				

Associated samples: **H18090302-002B**

Run ID :Run Order: **ICPMS205-H_180918A: 138** SampType: **Sample Matrix Spike** Lab ID: **H18090302-002BMS** Method: **E200.8**

Analysis Date: **09/18/18 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0596	0.010	0.05	0.009583	100	70	130				

Associated samples: **H18090302-002B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 139** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-002BMSD** Method: **E200.8**

Analysis Date: **09/18/18 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0597	0.010	0.05	0.009583	**100**	70	130	0.05958	**0.3**	20	

Associated samples: **H18090302-002B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138287

Run ID :Run Order: **ICP2-HE_180918A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/18/18 11:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	41.2	1.0	40	0	103	95	105				
Magnesium	41.6	1.0	40	0	104	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	39.5	1.0	40	0	99	95	105				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/18/18 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25	0	102	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	25.3	1.0	25	0	101	95	105				
Sodium	25.1	1.0	25	0	100	95	105				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/18/18 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	487	1.0	500	0	97	80	120				
Magnesium	542	1.0	500	0	108	80	120				
Potassium	-0.00915	1.0		0		0	0				
Sodium	0.0223	1.0		0		0	0				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/18/18 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	481	1.0	500	0	96	80	120				
Magnesium	535	1.0	500	0	107	80	120				
Potassium	20.1	1.0	20	0	101	80	120				
Sodium	19.8	1.0	20	0	99	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138287

Run ID :Run Order: **ICP2-HE_180918A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/18/18 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180918A: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/18/18 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.1	1.0	25	0	**104**	90	110				
Magnesium	26.1	1.0	25	0	**105**	90	110				
Potassium	25.8	1.0	25	0	**103**	90	110				
Sodium	25.4	1.0	25	0	**102**	90	110				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138308

Run ID :Run Order: **HGCV202-H_180919A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/19/18 11:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.99E-05	0.00010	0.0001	0	**100**	90	110				

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Run ID :Run Order: **HGCV202-H_180919A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **09/19/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	95	105				

Associated samples: **H18090302-001B, H18090302-001C, H18090302-002B, H18090302-002C, H18090302-003B, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138329

Run ID :Run Order: **ICP2-HE_180919B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **09/19/18 08:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.767	0.10	0.8	0	96	95	105				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180919B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**
Analysis Date: **09/19/18 09:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	98	95	105				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180919B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**
Analysis Date: **09/19/18 09:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0110	0.10		0		0	0				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180919B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**
Analysis Date: **09/19/18 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.986	0.10	1	0	99	80	120				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Run ID :Run Order: **ICP2-HE_180919B: 35** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **09/19/18 15:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	98	90	110				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138329

Run ID :Run Order: **ICP2-HE_180919B: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/19/18 16:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				

Associated samples: **H18090302-001C, H18090302-002C, H18090302-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138353

Run ID :Run Order: **FIA203-HE_180920B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **09/20/18 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.977	0.010	1	0	98	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180920B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **09/20/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180920B: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **09/20/18 13:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	102	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180920B: 13** SampType: **Sample Matrix Spike** Lab ID: **H18090407-001AMS** Method: **E353.2**
Analysis Date: **09/20/18 13:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	9.07	0.055	5	4.007	101	90	110				

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Run ID :Run Order: **FIA203-HE_180920B: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090407-001AMSD** Method: **E353.2**
Analysis Date: **09/20/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	9.12	0.055	5	4.007	102	90	110	9.07	0.6	10	

Associated samples: **H18090302-001D, H18090302-002D, H18090302-003D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138459

Run ID :Run Order: **ICPMS205-H_180925B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **09/25/18 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0617	0.0010	0.06	0	103	90	110				
Arsenic	0.0611	0.0010	0.06	0	102	90	110				
Barium	0.0607	0.0010	0.06	0	101	90	110				
Beryllium	0.0292	0.0010	0.03	0	97	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Calcium	3.04	0.14	3	0	101	90	110				
Chromium	0.0607	0.0010	0.06	0	101	90	110				
Lead	0.0606	0.0010	0.06	0	101	90	110				
Molybdenum	0.0609	0.0010	0.06	0	102	90	110				
Nickel	0.0618	0.0010	0.06	0	103	90	110				
Selenium	0.0612	0.0010	0.06	0	102	90	110				
Silver	0.0304	0.0010	0.03	0	101	90	110				
Uranium	0.0597	0.00030	0.06	0	100	90	110				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/25/18 09:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000149	0.0010		0							
Arsenic	5.97E-05	0.0010		0							
Barium	0.000104	0.0010		0							
Beryllium	-0.000411	0.0010		0							
Cadmium	0.000241	0.0010		0							
Calcium	119	0.14	120	0	99	70	130				
Chromium	0.00120	0.0010		0							
Lead	-0.000150	0.0010		0							
Molybdenum	0.845	0.0010	0.8	0	106	70	130				
Nickel	9.86E-05	0.0010		0		0	0				
Selenium	7.80E-05	0.0010		0							
Silver	0.000163	0.0010		0							
Uranium	1.94E-05	0.00030		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138459

Run ID :Run Order: **ICPMS205-H_180925B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/25/18 09:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/25/18 09:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	8.24E-05	0.0010		0		0	0				
Arsenic	0.0101	0.0010	0.01	0	101	70	130				
Barium	5.17E-05	0.0010		0		0	0				
Beryllium	-0.000425	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	102	70	130				
Calcium	115	0.14	120	0	96	70	130				
Chromium	0.0211	0.0010	0.02	0	105	70	130				
Lead	-0.000209	0.0010		0		0	0				
Molybdenum	0.839	0.0010	0.8	0	105	70	130				
Nickel	0.0199	0.0010	0.02	0	100	70	130				
Selenium	0.0100	0.0010	0.01	0	100	70	130				
Silver	0.0190	0.0010	0.02	0	95	70	130				
Uranium	5.59E-06	0.00030		0		0	0				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **09/25/18 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0616	0.0010	0.06	0	103	90	110				
Arsenic	0.0608	0.0010	0.06	0	101	90	110				
Barium	0.0605	0.0010	0.06	0	101	90	110				
Beryllium	0.0314	0.0010	0.03	0	105	90	110				
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Calcium	3.08	0.14	3	0	103	90	110				
Chromium	0.0607	0.0010	0.06	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138459

Run ID :Run Order: **ICPMS205-H_180925B: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **09/25/18 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0611	0.0010	0.06	0	102	90	110				
Molybdenum	0.0604	0.0010	0.06	0	101	90	110				
Nickel	0.0613	0.0010	0.06	0	102	90	110				
Selenium	0.0614	0.0010	0.06	0	102	90	110				
Silver	0.0304	0.0010	0.03	0	101	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/25/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000164	0.0010		0							
Arsenic	8.78E-05	0.0010		0							
Barium	0.000128	0.0010		0							
Beryllium	2.06E-05	0.0010		0							
Cadmium	0.000232	0.0010		0							
Calcium	120	0.14	120	0	100	70	130				
Chromium	0.00123	0.0010		0							
Lead	0.000134	0.0010		0							
Molybdenum	0.852	0.0010	0.8	0	107	70	130				
Nickel	0.000103	0.0010		0		0	0				
Selenium	0.000135	0.0010		0							
Silver	0.000155	0.0010		0							
Uranium	1.92E-05	0.00030		0							

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICPMS205-H_180925B: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/25/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	8.52E-05	0.0010		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138459

Run ID :Run Order: **ICPMS205-H_180925B: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/25/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0104	0.0010	0.01	0	**104**	70	130				
Barium	4.32E-05	0.0010		0		0	0				
Beryllium	7.74E-06	0.0010		0		0	0				
Cadmium	0.0103	0.0010	0.01	0	**103**	70	130				
Calcium	120	0.14	120	0	**100**	70	130				
Chromium	0.0210	0.0010	0.02	0	**105**	70	130				
Lead	0.000110	0.0010		0		0	0				
Molybdenum	0.829	0.0010	0.8	0	**104**	70	130				
Nickel	0.0196	0.0010	0.02	0	**98**	70	130				
Selenium	0.0101	0.0010	0.01	0	**101**	70	130				
Silver	0.0189	0.0010	0.02	0	**95**	70	130				
Uranium	5.39E-06	0.00030		0		0	0				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138507

Run ID :Run Order: **ICP2-HE_180925B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **09/25/18 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	**101**	90	110				
Boron	0.805	0.10	0.8	0	**101**	90	110				
Cobalt	0.783	0.021	0.8	0	**98**	90	110				
Copper	0.792	0.012	0.8	0	**99**	90	110				
Iron	4.02	0.030	4	0	**101**	90	110				
Manganese	3.95	0.010	4	0	**99**	90	110				
Vanadium	0.793	0.10	0.8	0	**99**	90	110				
Zinc	0.796	0.010	0.8	0	**100**	90	110				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **09/25/18 10:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	517	0.10	500	0	**103**	80	120				
Boron	0.00549	0.10		0		0	0				
Cobalt	0.0251	0.021		0		0	0				
Copper	0.000530	0.012		0		0	0				
Iron	186	0.030	200	0	**93**	80	120				
Manganese	-0.0318	0.010		0		0	0				
Vanadium	-0.00138	0.10		0		0	0				
Zinc	0.00129	0.010		0		0	0				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **ICP2-HE_180925B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **09/25/18 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	512	0.10	500	0	**102**	80	120				
Boron	0.973	0.10	1	0	**97**	80	120				
Cobalt	0.477	0.021	0.5	0	**95**	80	120				
Copper	0.515	0.012	0.5	0	**103**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138507

Run ID :Run Order: **ICP2-HE_180925B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **09/25/18 10:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	180	0.030	200	0	**90**	80	120				
Manganese	0.441	0.010	0.5	0	**88**	80	120				
Vanadium	0.488	0.10	0.5	0	**98**	80	120				
Zinc	0.958	0.010	1	0	**96**	80	120				

Associated samples: **H18090302-004A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138508

Run ID :Run Order: **HGCV201-H_180925A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **09/25/18 13:19** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00099	0.50	0.001	0	**99**	90	110				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **HGCV201-H_180925A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **09/25/18 13:21** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**101**	90	110				

Associated samples: **H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138605

Run ID :Run Order: **SOIL DRYING OVEN 2_180927A: 2** SampType: **Sample Duplicate** Lab ID: **H18090302-007ADUP** Method: **D2974**

Analysis Date: **09/28/18 15:25** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.4	0.20		0				21.47	**5.3**	20	

Associated samples: **H18090302-004A, H18090302-005A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Run ID :Run Order: **SOIL DRYING OVEN 2_180927A: 3** SampType: **Sample Duplicate** Lab ID: **H18090302-010ADUP** Method: **D2974**

Analysis Date: **09/28/18 15:25** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	19.5	0.20		0				19.78	**1.2**	20	

Associated samples: **H18090302-004A, H18090302-005A, H18090302-006A, H18090302-007A, H18090302-008A, H18090302-009A, H18090302-010A, H18090302-011A, H18090302-012A, H18090302-013A, H18090302-014A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138613

Run ID :Run Order: **ICPMS205-H_180927B: 15** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **09/27/18 11:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0617	0.0010	0.06	0	**103**	90	110				
Cadmium	0.0311	0.0010	0.03	0	**104**	90	110				
Lead	0.0616	0.0010	0.06	0	**103**	90	110				

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/27/18 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.89E-05	0.0010		0							
Cadmium	0.000267	0.0010		0							
Lead	9.28E-05	0.0010		0							

Associated samples: **H18090302-005A**

Run ID :Run Order: **ICPMS205-H_180927B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/27/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0104	0.0010	0.01	0	**104**	70	130				
Cadmium	0.0101	0.0010	0.01	0	**101**	70	130				
Lead	6.33E-05	0.0010		0		0	0				

Associated samples: **H18090302-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: R138641

Run ID :Run Order: **ICP2-HE_181001B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **10/01/18 09:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.806	0.012	0.8	0	**101**	90	110				
Iron	4.10	0.030	4	0	**102**	90	110				
Manganese	3.95	0.010	4	0	**99**	90	110				
Zinc	0.785	0.010	0.8	0	**98**	90	110				

Associated samples: **H18090302-005A, H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 12** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **10/01/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	-0.00256	0.012		0		0	0				
Iron	189	0.030	200	0	**95**	80	120				
Manganese	-0.0331	0.010		0		0	0				
Zinc	0.00156	0.010		0		0	0				

Associated samples: **H18090302-005A, H18090302-010A**

Run ID :Run Order: **ICP2-HE_181001B: 13** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/01/18 09:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.523	0.012	0.5	0	**105**	80	120				
Iron	187	0.030	200	0	**93**	80	120				
Manganese	0.444	0.010	0.5	0	**89**	80	120				
Zinc	0.979	0.010	1	0	**98**	80	120				

Associated samples: **H18090302-005A, H18090302-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090302
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *03-Oct-18*

BatchID: TSS180914A

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 1** SampType: **Method Blank** Lab ID: **MB-1_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	92.0	10	100	0	**92**	80	120				

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 4** SampType: **Sample Duplicate** Lab ID: **H18090285-001ADUP** Method: **A2540 D**

Analysis Date: **09/14/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	203	33		0				196.7	**3.3**	5	

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 1** SampType: **Sample Duplicate** Lab ID: **H18090303-003ADUP** Method: **A2540 D**

Analysis Date: **09/14/18 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	3.71	10		0				3.286		5	

Associated samples: **H18090302-001A, H18090302-002A, H18090302-003A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18090302

Login completed by: Jessica C. Smith
Date Received: 9/14/2018
Reviewed by: BL2000\rtooke
Received by: TLL
Reviewed Date: 9/18/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 1.0 °C, Cooler 2 at 0.2 °C, Cooler 3 at 0.6 °C, and Cooler 4 at 0.7 °C. On Ice. Box 1 was received at 7.0 °C and Box 2 at 7.4 °C. No Ice and no temperature blank. JCS 09/14/18

ENERGY
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 1

Account Information *(Billing information)*

Company/Name	NRDP/DOJ
Contact	Greg Mullen
Phone	(404) 442-0228
Mailing Address	1501 E. Lockey
City, State, Zip	Helena, MT 59620
Email	
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight; sieve sediment samples SS-04 and SLAG-01 only for < 0.063 mm size class, analyze only for Total As, Cd, Cu, Pb and Zn

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
C4	1 SS-01	9-13-2018	1630	5	W	✓	✓	✓	✓	✓	✓	✓	✓				+118090302
C4	2 SS-05A	9-13-2018	1445	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	3 SS-15G	9-12-2018	1315	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box1 = 7.0
	4 SS-04	9-13-2018	1600	1	S									✓			Box2 = 7.4
	5 SLAG-01	9-13-2018	1515	1	S									✓			C1 = 1.0
C4	6 SS-01	9-13-2018	1630	1	S									✓			C2 = 0.3
	7 SS-05A	9-13-2018	1445	1	S									✓			C3 = 0.6 TB
	8 SS-15G	9-12-2018	1315	1	S									✓			C4 = 0.7
	9																
	10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tarnet Traxler	9-14-2018 1120	Tarnet Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Tracy Evans	9/14/18 11:20	Tracy Evans

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Hand	Y	Y (N) C B	Y N	See labc use only	(Y) N Coolers Boxes	(Y) N Boxes Coolers	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

October 05, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18090303 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 62 samples for MT DEQ-Federal Superfund on 9/14/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18090303-001	SS-06G	09/13/18 13:45	09/14/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Suspended
H18090303-002	SS-07	09/13/18 13:15	09/14/18	Surface Water	Same As Above
H18090303-003	SS-08	09/13/18 12:00	09/14/18	Surface Water	Same As Above
H18090303-004	SS-10A	09/13/18 11:15	09/14/18	Surface Water	Same As Above
H18090303-005	Field Blank #2 SS-10A	09/13/18 10:45	09/14/18	Surface Water	Same As Above
H18090303-006	SS-11C	09/13/18 9:45	09/14/18	Surface Water	Same As Above
H18090303-007	SS-11D	09/13/18 8:45	09/14/18	Surface Water	Same As Above
H18090303-008	SS-11D Duplicate	09/13/18 8:45	09/14/18	Surface Water	Same As Above
H18090303-009	SS-13	09/12/18 17:05	09/14/18	Surface Water	Same As Above
H18090303-010	SS-14	09/12/18 16:15	09/14/18	Surface Water	Same As Above
H18090303-011	SS-15A-2	09/12/18 15:00	09/14/18	Surface Water	Same As Above
H18090303-012	SS-15A-2 Duplicate	09/12/18 15:00	09/14/18	Surface Water	Same As Above
H18090303-013	SS-15B	09/12/18 13:00	09/14/18	Surface Water	Same As Above
H18090303-014	SS-16	09/12/18 11:00	09/14/18	Surface Water	Same As Above
H18090303-015	SS-17D	09/12/18 10:15	09/14/18	Surface Water	Same As Above
H18090303-016	Field Blank #1 SS-17D	09/12/18 9:45	09/14/18	Surface Water	Same As Above
H18090303-017	SS-19	09/12/18 8:40	09/14/18	Surface Water	Same As Above

ANALYTICAL SUMMARY REPORT

H18090303-018	SS-06G Sediment Sieve <0.063mm	09/13/18 13:45	09/14/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet Soil Preparation USDA1
H18090303-019	SS-06G Sediment Sieve 1mm-0.063mm	09/13/18 13:45	09/14/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet
H18090303-020	SS-06G Sediment Sieve 2mm-1mm	09/13/18 13:45	09/14/18	Sediment	Same As Above
H18090303-021	SS-07 Sediment Sieve <0.063mm	09/13/18 13:15	09/14/18	Sediment	Same As Above
H18090303-022	SS-07 Sediment Sieve 1mm-0.063mm	09/13/18 13:15	09/14/18	Sediment	Same As Above
H18090303-023	SS-07 Sediment Sieve 2mm-1mm	09/13/18 13:15	09/14/18	Sediment	Same As Above
H18090303-024	SS-08 Sediment Sieve <0.063	09/13/18 12:00	09/14/18	Sediment	Same As Above
H18090303-025	SS-08 Sediment Sieve 1mm-0.063mm	09/13/18 12:00	09/14/18	Sediment	Same As Above
H18090303-026	SS-08 Sediment Sieve 2mm-1mm	09/13/18 12:00	09/14/18	Sediment	Same As Above
H18090303-027	SS-10A Sediment Sieve <0.063mm	09/13/18 11:15	09/14/18	Sediment	Same As Above
H18090303-028	SS-10A Sediment Sieve 1mm-0.063mm	09/13/18 11:15	09/14/18	Sediment	Same As Above
H18090303-029	SS-10A Sediment Sieve 2mm-1mm	09/13/18 11:15	09/14/18	Sediment	Same As Above
H18090303-030	SS-11C Sediment Sieve <0.063mm	09/13/18 9:45	09/14/18	Sediment	Same As Above
H18090303-031	SS-11C Sediment Sieve 1mm-0.063mm	09/13/18 9:45	09/14/18	Sediment	Same As Above
H18090303-032	SS-11C Sediment Sieve 2mm-1mm	09/13/18 9:45	09/14/18	Sediment	Same As Above
H18090303-033	SS-11D Sediment Sieve <0.063mm	09/13/18 8:45	09/14/18	Sediment	Same As Above
H18090303-034	SS-11D Sediment Sieve 1mm-0.063mm	09/13/18 8:45	09/14/18	Sediment	Same As Above
H18090303-035	SS-11D Sediment Sieve 2mm-1mm	09/13/18 8:45	09/14/18	Sediment	Same As Above
H18090303-036	SS-11D Duplicate Sediment Sieve <0.063mm	09/13/18 8:45	09/14/18	Sediment	Same As Above
H18090303-037	SS-11D Duplicate Sediment Sieve 1mm-0.063mm	09/13/18 8:45	09/14/18	Sediment	Same As Above
H18090303-038	SS-11D Duplicate Sediment Sieve 2mm-	09/13/18 8:45	09/14/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18090303-039	SS-13 Sediment Sieve <0.063mm	09/12/18 17:05	09/14/18	Sediment	Same As Above
H18090303-040	SS-13 Sediment Sieve 1mm-0.063mm	09/12/18 17:05	09/14/18	Sediment	Same As Above
H18090303-041	SS-13 Sediment Sieve 2mm-1mm	09/12/18 17:05	09/14/18	Sediment	Same As Above
H18090303-042	SS-14 Sediment Sieve <0.063mm	09/12/18 16:15	09/14/18	Sediment	Same As Above
H18090303-043	SS-14 Sediment Sieve 1mm-0.063mm	09/12/18 16:15	09/14/18	Sediment	Same As Above
H18090303-044	SS-14 Sediment Sieve 2mm-1mm	09/12/18 16:15	09/14/18	Sediment	Same As Above
H18090303-045	SS-15A-2 Sediment Sieve <0.063mm	09/12/18 15:00	09/14/18	Sediment	Same As Above
H18090303-046	SS-15A-2 Sediment Sieve 1mm-0.063mm	09/12/18 15:00	09/14/18	Sediment	Same As Above
H18090303-047	SS-15A-2 Sediment Sieve 2mm-1mm	09/12/18 15:00	09/14/18	Sediment	Same As Above
H18090303-048	SS-15A-2 Duplicate Sediment Sieve <0.063mm	09/12/18 15:00	09/14/18	Sediment	Same As Above
H18090303-049	SS-15A-2 Duplicate Sediment Sieve 1mm-0.063mm	09/12/18 15:00	09/14/18	Sediment	Same As Above
H18090303-050	SS-15A-2 Duplicate Sediment Sieve 2mm-	09/12/18 15:00	09/14/18	Sediment	Same As Above
H18090303-051	SS-15B Sediment Sieve <0.063mm	09/12/18 13:00	09/14/18	Sediment	Same As Above
H18090303-052	SS-15B Sediment Sieve 1mm-0.063mm	09/12/18 13:00	09/14/18	Sediment	Same As Above
H18090303-053	SS-15B Sediment Sieve 2mm-1mm	09/12/18 13:00	09/14/18	Sediment	Same As Above
H18090303-054	SS-16 Sediment Sieve <0.063mm	09/12/18 11:00	09/14/18	Sediment	Same As Above
H18090303-055	SS-16 Sediment Sieve 1mm-0.063mm	09/12/18 11:00	09/14/18	Sediment	Same As Above
H18090303-056	SS-16 Sediment Sieve 2mm-1mm	09/12/18 11:00	09/14/18	Sediment	Same As Above
H18090303-057	SS-17D Sediment Sieve <0.063mm	09/12/18 10:15	09/14/18	Sediment	Same As Above
H18090303-058	SS-17D Sediment Sieve 1mm-0.063mm	09/12/18 10:15	09/14/18	Sediment	Same As Above
H18090303-059	SS-17D Sediment Sieve 2mm-1mm	09/12/18 10:15	09/14/18	Sediment	Same As Above
H18090303-060	SS-19 Sediment Sieve <0.063mm	09/12/18 8:40	09/14/18	Sediment	Same As Above
H18090303-061	SS-19 Sediment Sieve 1mm-0.063mm	09/12/18 8:40	09/14/18	Sediment	Same As Above
H18090303-062	SS-19 Sediment Sieve 2mm-1mm	09/12/18 8:40	09/14/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-001
Collection Date: 09/13/18 13:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:36 / cm			-124 (14410200)_180914A	8	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	2	A2320 B	09/14/18 19:04 / SR			PHSC_101-H_180914A	134	R138171
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	09/14/18 19:04 / SR			PHSC_101-H_180914A	134	R138171
Chloride	32	mg/L		1	0.009	E300.0	09/15/18 07:41 / SR			IC METROHM_180914A	64	R138214
Sulfate	104	mg/L		1	0.01	E300.0	09/15/18 07:41 / SR			IC METROHM_180914A	64	R138214
Hardness as CaCO3	193	mg/L		1	1	A2340 B	09/17/18 13:25 / SR			CALC_180919A	421	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:45 / km			FIA203-HE_180917B	18	R138227
Nitrogen, Nitrate+Nitrite as N	1.27	mg/L		0.02	0.009	E353.2	09/20/18 14:08 / km			FIA203-HE_180920B	23	R138353
Nitrogen, Total	1.51	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:16 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	30	43128
Phosphorus, Total as P	0.063	mg/L		0.003	0.0004	E365.1	09/18/18 16:30 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	82	43134
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Antimony	0.00022	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Barium	0.044	mg/L		0.003	0.00002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Boron	0.064	mg/L	J	0.1	0.006	E200.7	09/17/18 13:25 / sld			ICP2-HE_180917B	38	R138225
Cadmium	0.00006	mg/L		0.00003	0.00003	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Calcium	54	mg/L		1	0.07	E200.7	09/17/18 13:25 / sld			ICP2-HE_180917B	38	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Cobalt	0.00009	mg/L	J	0.01	0.00009	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Copper	0.004	mg/L		0.001	0.0001	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Iron	0.08	mg/L		0.02	0.002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Lead	ND	mg/L		0.0003	0.00003	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 13:25 / sld			ICP2-HE_180917B	38	R138225
Manganese	0.073	mg/L		0.001	0.0003	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:17 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	39	43148
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Nickel	0.0005	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Potassium	4	mg/L		1	0.06	E200.7	09/17/18 13:25 / sld			ICP2-HE_180917B	38	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-001
Collection Date: 09/13/18 13:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Sodium	22	mg/L		1	0.02	E200.7	09/17/18 13:25 / sld			ICP2-HE_180917B	38	R138225
Uranium	0.0054	mg/L		0.0002	0.00001	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Vanadium	0.0022	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
Zinc	0.013	mg/L		0.008	0.0003	E200.8	09/17/18 12:06 / sld			ICPMS205-H_180917A	38	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.026	mg/L		0.009	0.003	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Barium	0.044	mg/L		0.003	0.00009	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	63	43120
Boron	0.064	mg/L	J	0.1	0.005	E200.7	09/19/18 16:35 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	52	43120
Cadmium	0.00010	mg/L		0.00003	0.00003	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Calcium	57	mg/L		1	0.09	E200.7	09/18/18 13:48 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	45	43120
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Cobalt	0.00016	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Copper	0.007	mg/L		0.001	0.0002	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Iron	0.27	mg/L		0.02	0.004	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Lead	0.0006	mg/L		0.0003	0.00004	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Magnesium	15	mg/L		1	0.2	E200.7	09/18/18 13:48 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	45	43120
Manganese	0.088	mg/L		0.001	0.0003	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Mercury	2.8E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:44 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	66	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Nickel	0.0006	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Potassium	4	mg/L		1	0.06	E200.7	09/18/18 13:48 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	45	43120
Selenium	0.00026	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Silver	0.000017	mg/L	J	0.0002	9E-06	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Sodium	23	mg/L		1	0.03	E200.7	09/18/18 13:48 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	45	43120
Uranium	0.0056	mg/L		0.0002	9E-06	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Vanadium	0.0035	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120
Zinc	0.022	mg/L		0.008	0.001	E200.8	09/18/18 12:36 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	96	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-002
Collection Date: 09/13/18 13:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:37 / cm			-124 (14410200)_180914A	9	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	09/14/18 19:16 / SR			PHSC_101-H_180914A	138	R138171
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	09/14/18 19:16 / SR			PHSC_101-H_180914A	138	R138171
Chloride	36	mg/L		1	0.009	E300.0	09/15/18 07:55 / SR			IC METROHM_180914A	65	R138214
Sulfate	92	mg/L		1	0.01	E300.0	09/15/18 07:55 / SR			IC METROHM_180914A	65	R138214
Hardness as CaCO3	177	mg/L		1	1	A2340 B	09/17/18 13:29 / SR			CALC_180919A	432	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:46 / km			FIA203-HE_180917B	19	R138227
Nitrogen, Nitrate+Nitrite as N	1.52	mg/L		0.02	0.009	E353.2	09/20/18 14:45 / km			FIA203-HE_180920C	12	R138356
Nitrogen, Total	1.94	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:17 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	31	43128
Phosphorus, Total as P	0.051	mg/L		0.003	0.0004	E365.1	09/18/18 16:31 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	83	43134
METALS, DISSOLVED												
Aluminum	0.008	mg/L	J	0.009	0.003	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Antimony	0.00029	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Barium	0.041	mg/L		0.003	0.00002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Boron	0.071	mg/L	J	0.1	0.006	E200.7	09/17/18 13:29 / sld			ICP2-HE_180917B	39	R138225
Cadmium	0.00006	mg/L		0.00003	0.00003	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Calcium	50	mg/L		1	0.07	E200.7	09/17/18 13:29 / sld			ICP2-HE_180917B	39	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Copper	0.004	mg/L		0.001	0.0001	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Iron	0.08	mg/L		0.02	0.002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Lead	0.00006	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Magnesium	13	mg/L		1	0.1	E200.7	09/17/18 13:29 / sld			ICP2-HE_180917B	39	R138225
Manganese	0.059	mg/L		0.001	0.0003	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:27 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	42	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 13:29 / sld			ICP2-HE_180917B	39	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-002
Collection Date: 09/13/18 13:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Sodium	30	mg/L		1	0.02	E200.7	09/17/18 13:29 / sld			ICP2-HE_180917B	39	R138225
Uranium	0.0045	mg/L		0.0002	0.00001	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Vanadium	0.0021	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
Zinc	0.031	mg/L		0.008	0.0003	E200.8	09/17/18 12:08 / sld			ICPMS205-H_180917A	39	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.028	mg/L		0.009	0.003	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Barium	0.040	mg/L		0.003	0.00009	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	64	43120
Boron	0.074	mg/L	J	0.1	0.005	E200.7	09/19/18 16:39 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	53	43120
Cadmium	0.00008	mg/L		0.00003	0.00003	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Calcium	51	mg/L		1	0.09	E200.7	09/18/18 13:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	46	43120
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Cobalt	0.00013	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Copper	0.006	mg/L		0.001	0.0002	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Iron	0.20	mg/L		0.02	0.004	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Lead	0.0005	mg/L		0.0003	0.00004	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 13:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	46	43120
Manganese	0.071	mg/L		0.001	0.0003	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Mercury	2.4E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:54 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	69	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Potassium	6	mg/L		1	0.06	E200.7	09/18/18 13:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	46	43120
Selenium	0.00024	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Silver	0.000010	mg/L	J	0.0002	9E-06	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Sodium	32	mg/L		1	0.03	E200.7	09/18/18 13:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	46	43120
Uranium	0.0046	mg/L		0.0002	9E-06	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Vanadium	0.0035	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120
Zinc	0.036	mg/L		0.008	0.001	E200.8	09/18/18 12:37 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	97	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-003
Collection Date: 09/13/18 12:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	3	mg/L		1	0.3	A2540 D	09/14/18 14:38 / cm			124 (14410200)_180914A	14	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 19:22 / SR			PHSC_101-H_180914A	140	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 19:22 / SR			PHSC_101-H_180914A	140	R138171
Chloride	37	mg/L		1	0.009	E300.0	09/15/18 08:10 / SR			IC METROHM_180914A	66	R138214
Sulfate	105	mg/L		1	0.01	E300.0	09/15/18 08:10 / SR			IC METROHM_180914A	66	R138214
Hardness as CaCO3	199	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	2	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:48 / km			FIA203-HE_180917B	20	R138227
Nitrogen, Nitrate+Nitrite as N	0.95	mg/L		0.02	0.009	E353.2	09/20/18 14:46 / km			FIA203-HE_180920C	13	R138356
Nitrogen, Total	1.29	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:19 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	32	43128
Phosphorus, Total as P	0.052	mg/L		0.003	0.0004	E365.1	09/18/18 16:32 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	84	43134
METALS, DISSOLVED												
Aluminum	0.005	mg/L	J	0.009	0.003	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Antimony	0.00033	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Barium	0.041	mg/L		0.003	0.00002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Boron	0.075	mg/L	J	0.1	0.006	E200.7	09/17/18 13:33 / sld			ICP2-HE_180917B	40	R138225
Cadmium	0.00014	mg/L		0.00003	0.00003	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Calcium	53	mg/L		1	0.07	E200.7	09/17/18 13:33 / sld			ICP2-HE_180917B	40	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Copper	0.006	mg/L		0.001	0.0001	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Iron	0.07	mg/L		0.02	0.002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Lead	0.00020	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 13:33 / sld			ICP2-HE_180917B	40	R138225
Manganese	0.061	mg/L		0.001	0.0003	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:30 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	43	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 13:33 / sld			ICP2-HE_180917B	40	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-003
Collection Date: 09/13/18 12:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00019	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Sodium	32	mg/L		1	0.02	E200.7	09/17/18 13:33 / sld			ICP2-HE_180917B	40	R138225
Uranium	0.0053	mg/L		0.0002	0.00001	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
Zinc	0.039	mg/L		0.008	0.0003	E200.8	09/17/18 12:09 / sld			ICPMS205-H_180917A	40	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.057	mg/L		0.009	0.003	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/19/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	65	43120
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Barium	0.040	mg/L		0.003	0.00009	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	65	43120
Boron	0.082	mg/L	J	0.1	0.005	E200.7	09/19/18 16:43 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	54	43120
Cadmium	0.00020	mg/L		0.00003	0.00003	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Calcium	56	mg/L		1	0.09	E200.7	09/18/18 13:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	47	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Cobalt	0.00014	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Copper	0.010	mg/L		0.001	0.0002	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Iron	0.25	mg/L		0.02	0.004	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Lead	0.0037	mg/L		0.0003	0.00004	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Magnesium	15	mg/L		1	0.2	E200.7	09/18/18 13:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	47	43120
Manganese	0.094	mg/L		0.001	0.0003	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Mercury	0.0000151	mg/L		5E-06	1E-06	E245.1	09/21/18 13:57 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	70	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Potassium	6	mg/L		1	0.06	E200.7	09/18/18 13:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	47	43120
Selenium	0.00025	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Silver	0.000017	mg/L	J	0.0002	9E-06	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Sodium	34	mg/L		1	0.03	E200.7	09/18/18 13:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	47	43120
Uranium	0.0056	mg/L		0.0002	9E-06	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Vanadium	0.0033	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120
Zinc	0.054	mg/L		0.008	0.001	E200.8	09/18/18 12:39 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	98	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-004
Collection Date: 09/13/18 11:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	1	mg/L		1	0.3	A2540 D	09/14/18 14:37 / cm			l24 (14410200)_180914A	11	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 19:28 / SR			PHSC_101-H_180914A	142	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 19:28 / SR			PHSC_101-H_180914A	142	R138171
Chloride	37	mg/L		1	0.009	E300.0	09/15/18 08:24 / SR			IC METROHM_180914A	67	R138214
Sulfate	108	mg/L		1	0.01	E300.0	09/15/18 08:24 / SR			IC METROHM_180914A	67	R138214
Hardness as CaCO3	196	mg/L		1	1	A2340 B	09/17/18 13:55 / SR			CALC_180919A	443	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:49 / km			FIA203-HE_180917B	21	R138227
Nitrogen, Nitrate+Nitrite as N	0.87	mg/L		0.02	0.009	E353.2	09/20/18 14:47 / km			FIA203-HE_180920C	14	R138356
Nitrogen, Total	1.20	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:20 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	33	43128
Phosphorus, Total as P	0.059	mg/L		0.003	0.0004	E365.1	09/18/18 16:33 / km	09/18/18 10:47	E365.1	FIA202-HE_180918B	85	43134
METALS, DISSOLVED												
Aluminum	0.006	mg/L	J	0.009	0.003	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Antimony	0.00031	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Barium	0.043	mg/L		0.003	0.00002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Boron	0.079	mg/L	J	0.1	0.006	E200.7	09/17/18 13:55 / sld			ICP2-HE_180917B	46	R138225
Cadmium	0.00020	mg/L		0.00003	0.00003	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Calcium	55	mg/L		1	0.07	E200.7	09/17/18 13:55 / sld			ICP2-HE_180917B	46	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Copper	0.014	mg/L		0.001	0.0001	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Iron	0.009	mg/L	J	0.02	0.002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Lead	ND	mg/L		0.0003	0.00003	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 13:55 / sld			ICP2-HE_180917B	46	R138225
Manganese	0.031	mg/L		0.001	0.0003	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:33 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	44	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 13:55 / sld			ICP2-HE_180917B	46	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-004
Collection Date: 09/13/18 11:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00020	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Sodium	33	mg/L		1	0.02	E200.7	09/17/18 13:55 / sld			ICP2-HE_180917B	46	R138225
Uranium	0.0051	mg/L		0.0002	0.00001	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Vanadium	0.0015	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
Zinc	0.055	mg/L		0.008	0.0003	E200.8	09/17/18 12:11 / sld			ICPMS205-H_180917A	41	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.035	mg/L		0.009	0.003	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Barium	0.041	mg/L		0.003	0.00009	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	66	43120
Boron	0.079	mg/L	J	0.1	0.005	E200.7	09/19/18 16:47 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	55	43120
Cadmium	0.00025	mg/L		0.00003	0.00003	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Calcium	55	mg/L		1	0.09	E200.7	09/18/18 14:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	48	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Cobalt	0.00007	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Copper	0.027	mg/L		0.001	0.0002	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Iron	0.12	mg/L		0.02	0.004	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Lead	0.0007	mg/L		0.0003	0.00004	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 14:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	48	43120
Manganese	0.036	mg/L		0.001	0.0003	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Mercury	5.3E-06	mg/L		5E-06	1E-06	E245.1	09/25/18 12:09 / dck	09/19/18 11:32	E245.1	HGCV202-H_180925A	12	43149
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Potassium	6	mg/L		1	0.06	E200.7	09/18/18 14:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	48	43120
Selenium	0.00023	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Sodium	35	mg/L		1	0.03	E200.7	09/18/18 14:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	48	43120
Uranium	0.0054	mg/L		0.0002	9E-06	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Vanadium	0.0029	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120
Zinc	0.070	mg/L		0.008	0.001	E200.8	09/18/18 12:41 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	99	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-005
Collection Date: 09/13/18 10:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	09/14/18 14:37 / cm			l24 (14410200)_180914A	: 12	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	09/14/18 19:34 / SR			PHSC_101-H_180914A	: 144	R138171
Bicarbonate as HCO3	2	mg/L	J	4	2	A2320 B	09/14/18 19:34 / SR			PHSC_101-H_180914A	: 144	R138171
Chloride	0.010	mg/L	J	1	0.009	E300.0	09/15/18 08:38 / SR			IC METROHM_180914A	: 68	R138214
Sulfate	0.02	mg/L	J	1	0.01	E300.0	09/15/18 08:38 / SR			IC METROHM_180914A	: 68	R138214
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	: 3	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:50 / km			FIA203-HE_180917B	: 22	R138227
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	09/20/18 14:51 / km			FIA203-HE_180920C	: 17	R138356
Nitrogen, Total	ND	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:21 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	: 34	43128
Phosphorus, Total as P	0.0016	mg/L	J	0.003	0.0004	E365.1	09/18/18 16:39 / km	09/18/18 10:48	E365.1	FIA202-HE_180918B	: 90	43135
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Antimony	ND	mg/L		0.0005	0.00009	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Arsenic	ND	mg/L		0.001	0.00004	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Barium	0.0011	mg/L	J	0.003	0.00002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Boron	ND	mg/L		0.1	0.006	E200.7	09/17/18 13:59 / sld			ICP2-HE_180917B	: 47	R138225
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Calcium	ND	mg/L		1	0.07	E200.7	09/17/18 13:59 / sld			ICP2-HE_180917B	: 47	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Copper	ND	mg/L		0.001	0.0001	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Iron	ND	mg/L		0.02	0.002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Lead	ND	mg/L		0.0003	0.00003	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Magnesium	ND	mg/L		1	0.01	E200.7	09/17/18 13:59 / sld			ICP2-HE_180917B	: 47	R138225
Manganese	ND	mg/L		0.001	0.0003	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:37 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 45	43148
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Nickel	ND	mg/L		0.002	0.0002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	: 42	R138224
Potassium	ND	mg/L		1	0.06	E200.7	09/17/18 13:59 / sld			ICP2-HE_180917B	: 47	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-005
Collection Date: 09/13/18 10:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	42	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	42	R138224
Sodium	0.02	mg/L	J	1	0.02	E200.7	09/17/18 13:59 / sld			ICP2-HE_180917B	47	R138225
Uranium	ND	mg/L		0.0002	0.00001	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	42	R138224
Vanadium	ND	mg/L		0.1	0.00007	E200.8	09/17/18 12:13 / sld			ICPMS205-H_180917A	42	R138224
Zinc	0.0080	mg/L	J	0.008	0.0003	E200.8	09/18/18 13:47 / sld			ICPMS205-H_180918A	133	R138264
METALS, TOTAL RECOVERABLE												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Arsenic	0.00012	mg/L	J	0.001	0.00004	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Barium	0.00018	mg/L	J	0.003	0.00009	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 12:47 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	67	43120
Boron	ND	mg/L		0.1	0.005	E200.7	09/19/18 16:50 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	56	43120
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Calcium	ND	mg/L		1	0.09	E200.7	09/18/18 14:03 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	49	43120
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Cobalt	ND	mg/L		0.01	0.00006	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Copper	ND	mg/L		0.001	0.0002	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Iron	ND	mg/L		0.02	0.004	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Lead	ND	mg/L		0.0003	0.00004	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Magnesium	ND	mg/L		1	0.009	E200.7	09/18/18 14:03 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	49	43120
Manganese	ND	mg/L		0.001	0.0003	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 14:04 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	72	43149
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	09/19/18 12:47 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	67	43120
Nickel	ND	mg/L		0.002	0.0001	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Potassium	ND	mg/L		1	0.06	E200.7	09/18/18 14:03 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	49	43120
Selenium	0.00008	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Sodium	ND	mg/L		1	0.6	E200.7	09/19/18 16:50 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	56	43120
Uranium	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Vanadium	0.0016	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	09/18/18 12:43 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	100	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-006
Collection Date: 09/13/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:37 / cm			l24 (14410200)_180914A	: 13	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 19:40 / SR			PHSC_101-H_180914A	: 146	R138171
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	09/14/18 19:40 / SR			PHSC_101-H_180914A	: 146	R138171
Chloride	58	mg/L		1	0.009	E300.0	09/15/18 08:52 / SR			IC METROHM_180914A	: 69	R138214
Sulfate	113	mg/L		1	0.01	E300.0	09/15/18 08:52 / SR			IC METROHM_180914A	: 69	R138214
Hardness as CaCO3	223	mg/L		1	1	A2340 B	09/17/18 14:03 / SR			CALC_180919A	: 454	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:54 / km			FIA203-HE_180917B	: 25	R138227
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.02	0.009	E353.2	09/20/18 14:52 / km			FIA203-HE_180920C	: 18	R138356
Nitrogen, Total	1.29	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:22 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	: 35	43128
Phosphorus, Total as P	0.057	mg/L		0.003	0.0004	E365.1	09/18/18 16:42 / km	09/18/18 10:48	E365.1	FIA202-HE_180918B	: 93	43135
METALS, DISSOLVED												
Aluminum	0.006	mg/L	J	0.009	0.003	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Antimony	0.00042	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Barium	0.047	mg/L		0.003	0.00002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Boron	0.074	mg/L	J	0.1	0.006	E200.7	09/17/18 14:03 / sld			ICP2-HE_180917B	: 48	R138225
Cadmium	0.00019	mg/L		0.00003	0.00003	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Calcium	65	mg/L		1	0.07	E200.7	09/17/18 14:03 / sld			ICP2-HE_180917B	: 48	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Copper	0.017	mg/L		0.001	0.0001	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Iron	0.04	mg/L		0.02	0.002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Lead	0.00014	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:03 / sld			ICP2-HE_180917B	: 48	R138225
Manganese	0.063	mg/L		0.001	0.0003	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Mercury	2.3E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 12:40 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 46	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Nickel	0.0018	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	: 47	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:03 / sld			ICP2-HE_180917B	: 48	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-006
Collection Date: 09/13/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00061	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	47	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	47	R138224
Sodium	36	mg/L		1	0.02	E200.7	09/17/18 14:03 / sld			ICP2-HE_180917B	48	R138225
Uranium	0.0054	mg/L		0.0002	0.00001	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	47	R138224
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	47	R138224
Zinc	0.244	mg/L		0.008	0.0003	E200.8	09/17/18 12:23 / sld			ICPMS205-H_180917A	47	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.040	mg/L		0.009	0.003	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Antimony	0.0006	mg/L		0.0005	0.0001	E200.8	09/19/18 12:49 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	68	43120
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Barium	0.045	mg/L		0.003	0.00009	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 12:49 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	68	43120
Boron	0.077	mg/L	J	0.1	0.005	E200.7	09/19/18 16:54 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	57	43120
Cadmium	0.00024	mg/L		0.00003	0.00003	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Calcium	67	mg/L		1	0.09	E200.7	09/18/18 14:07 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	50	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Cobalt	0.00010	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Copper	0.022	mg/L		0.001	0.0002	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Iron	0.11	mg/L		0.02	0.004	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Lead	0.0006	mg/L		0.0003	0.00004	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Magnesium	15	mg/L		1	0.2	E200.7	09/18/18 14:07 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	50	43120
Manganese	0.074	mg/L		0.001	0.0003	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Mercury	5.0E-06	mg/L		5E-06	1E-06	E245.1	09/25/18 12:12 / dck	09/19/18 11:32	E245.1	HGCV202-H_180925A	13	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Potassium	7	mg/L		1	0.06	E200.7	09/18/18 14:07 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	50	43120
Selenium	0.00040	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Sodium	38	mg/L		1	0.03	E200.7	09/18/18 14:07 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	50	43120
Uranium	0.0055	mg/L		0.0002	9E-06	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Vanadium	0.0030	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120
Zinc	0.085	mg/L		0.008	0.001	E200.8	09/18/18 12:45 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	101	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-007
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	3	mg/L		1	0.3	A2540 D	09/14/18 14:37 / cm			l24 (14410200)_180914A	10	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 19:46 / SR			PHSC_101-H_180914A	148	R138171
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	09/14/18 19:46 / SR			PHSC_101-H_180914A	148	R138171
Chloride	52	mg/L		1	0.009	E300.0	09/15/18 09:06 / SR			IC METROHM_180914A	70	R138214
Sulfate	106	mg/L		1	0.01	E300.0	09/15/18 09:06 / SR			IC METROHM_180914A	70	R138214
Hardness as CaCO3	217	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	4	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:57 / km			FIA203-HE_180917B	28	R138227
Nitrogen, Nitrate+Nitrite as N	0.92	mg/L		0.02	0.009	E353.2	09/20/18 14:53 / km			FIA203-HE_180920C	19	R138356
Nitrogen, Total	1.23	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:23 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	36	43128
Phosphorus, Total as P	0.065	mg/L		0.003	0.0004	E365.1	09/18/18 16:44 / km	09/18/18 10:48	E365.1	FIA202-HE_180918B	94	43135
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Antimony	0.00036	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Barium	0.044	mg/L		0.003	0.00002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Boron	0.067	mg/L	J	0.1	0.006	E200.7	09/17/18 14:07 / sld			ICP2-HE_180917B	49	R138225
Cadmium	0.00020	mg/L		0.00003	0.00003	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Calcium	62	mg/L		1	0.07	E200.7	09/17/18 14:07 / sld			ICP2-HE_180917B	49	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Copper	0.015	mg/L		0.001	0.0001	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Iron	0.03	mg/L		0.02	0.002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	09/18/18 13:49 / sld			ICPMS205-H_180918A	134	R138264
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:07 / sld			ICP2-HE_180917B	49	R138225
Manganese	0.063	mg/L		0.001	0.0003	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:43 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	47	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:07 / sld			ICP2-HE_180917B	49	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-007
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00052	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Sodium	35	mg/L		1	0.02	E200.7	09/17/18 14:07 / sld			ICP2-HE_180917B	49	R138225
Uranium	0.0052	mg/L		0.0002	0.00001	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
Zinc	0.074	mg/L		0.008	0.0003	E200.8	09/17/18 12:25 / sld			ICPMS205-H_180917A	48	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.061	mg/L		0.009	0.003	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/19/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	75	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Barium	0.044	mg/L		0.003	0.00009	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	75	43120
Boron	0.077	mg/L	J	0.1	0.005	E200.7	09/19/18 17:51 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	72	43120
Cadmium	0.00025	mg/L		0.00003	0.00003	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Calcium	63	mg/L		1	0.09	E200.7	09/18/18 14:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	57	43120
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Cobalt	0.00011	mg/L	J	0.01	0.00006	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Copper	0.020	mg/L		0.001	0.0002	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Iron	0.13	mg/L		0.02	0.004	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Lead	0.0037	mg/L		0.0003	0.00004	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 14:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	57	43120
Manganese	0.076	mg/L		0.001	0.0003	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Mercury	0.0000167	mg/L		5E-06	1E-06	E245.1	09/21/18 14:10 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	74	43149
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Potassium	7	mg/L		1	0.06	E200.7	09/18/18 14:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	57	43120
Selenium	0.00041	mg/L	J	0.001	0.00005	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Silver	0.000028	mg/L	J	0.0002	9E-06	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Sodium	37	mg/L		1	0.03	E200.7	09/18/18 14:33 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	57	43120
Uranium	0.0054	mg/L		0.0002	9E-06	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Vanadium	0.0032	mg/L	J	0.1	0.00002	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120
Zinc	0.083	mg/L		0.008	0.001	E200.8	09/18/18 12:59 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	108	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-008
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:39 / cm			l24 (14410200)_180914A	: 16	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 19:53 / SR			PHSC_101-H_180914A	: 150	R138171
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	09/14/18 19:53 / SR			PHSC_101-H_180914A	: 150	R138171
Chloride	53	mg/L		1	0.009	E300.0	09/15/18 09:20 / SR			IC METROHM_180914A	: 71	R138214
Sulfate	107	mg/L		1	0.01	E300.0	09/15/18 09:20 / SR			IC METROHM_180914A	: 71	R138214
Hardness as CaCO3	209	mg/L		1	1	A2340 B	09/17/18 14:11 / SR			CALC_180919A	: 465	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 11:58 / km			FIA203-HE_180917B	: 29	R138227
Nitrogen, Nitrate+Nitrite as N	0.93	mg/L		0.02	0.009	E353.2	09/20/18 14:54 / km			FIA203-HE_180920C	: 20	R138356
Nitrogen, Total	1.26	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:25 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	: 37	43128
Phosphorus, Total as P	0.064	mg/L		0.003	0.0004	E365.1	09/18/18 16:45 / km	09/18/18 10:48	E365.1	FIA202-HE_180918B	: 95	43135
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Antimony	0.00035	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Barium	0.045	mg/L		0.003	0.00002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Boron	0.071	mg/L	J	0.1	0.006	E200.7	09/17/18 14:11 / sld			ICP2-HE_180917B	: 50	R138225
Cadmium	0.00019	mg/L		0.00003	0.00003	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Calcium	61	mg/L		1	0.07	E200.7	09/17/18 14:11 / sld			ICP2-HE_180917B	: 50	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Copper	0.015	mg/L		0.001	0.0001	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Iron	0.03	mg/L		0.02	0.002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Lead	0.0005	mg/L		0.0003	0.00003	E200.8	09/18/18 13:51 / sld			ICPMS205-H_180918A	: 135	R138264
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:11 / sld			ICP2-HE_180917B	: 50	R138225
Manganese	0.062	mg/L		0.001	0.0003	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:46 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 48	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	: 49	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:11 / sld			ICP2-HE_180917B	: 50	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-008
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00053	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	49	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	49	R138224
Sodium	35	mg/L		1	0.02	E200.7	09/17/18 14:11 / sld			ICP2-HE_180917B	50	R138225
Uranium	0.0051	mg/L		0.0002	0.00001	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	49	R138224
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	49	R138224
Zinc	0.073	mg/L		0.008	0.0003	E200.8	09/17/18 12:27 / sld			ICPMS205-H_180917A	49	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.054	mg/L		0.009	0.003	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Antimony	0.0005	mg/L		0.0005	0.0001	E200.8	09/19/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	76	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Barium	0.043	mg/L		0.003	0.00009	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	76	43120
Boron	0.072	mg/L	J	0.1	0.005	E200.7	09/19/18 17:54 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	73	43120
Cadmium	0.00021	mg/L		0.00003	0.00003	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Calcium	64	mg/L		1	0.09	E200.7	09/18/18 14:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	58	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Cobalt	0.00012	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Copper	0.020	mg/L		0.001	0.0002	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Iron	0.12	mg/L		0.02	0.004	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Lead	0.0035	mg/L		0.0003	0.00004	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 14:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	58	43120
Manganese	0.077	mg/L		0.001	0.0003	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Mercury	9.6E-06	mg/L		5E-06	1E-06	E245.1	09/21/18 14:14 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	75	43149
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Potassium	7	mg/L		1	0.06	E200.7	09/18/18 14:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	58	43120
Selenium	0.00042	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Silver	0.000013	mg/L	J	0.0002	9E-06	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Sodium	37	mg/L		1	0.03	E200.7	09/18/18 14:37 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	58	43120
Uranium	0.0053	mg/L		0.0002	9E-06	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Vanadium	0.0031	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120
Zinc	0.083	mg/L		0.008	0.001	E200.8	09/18/18 13:01 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	109	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-009
Collection Date: 09/12/18 17:05
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	3	mg/L		1	0.3	A2540 D	09/14/18 14:39 / cm			l24 (14410200)_180914A	17	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 19:59 / SR			PHSC_101-H_180914A	152	R138171
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	09/14/18 19:59 / SR			PHSC_101-H_180914A	152	R138171
Chloride	52	mg/L		1	0.009	E300.0	09/15/18 09:34 / SR			IC METROHM_180914A	72	R138214
Sulfate	109	mg/L		1	0.01	E300.0	09/15/18 09:34 / SR			IC METROHM_180914A	72	R138214
Hardness as CaCO3	221	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	5	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:00 / km			FIA203-HE_180917B	30	R138227
Nitrogen, Nitrate+Nitrite as N	0.56	mg/L		0.02	0.009	E353.2	09/20/18 14:55 / km			FIA203-HE_180920C	21	R138356
Nitrogen, Total	0.86	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:26 / km	09/17/18 12:00	A4500 N-	FIA203-HE_180918B	38	43128
Phosphorus, Total as P	0.070	mg/L		0.003	0.0004	E365.1	09/18/18 16:46 / km	09/18/18 10:48	E365.1	FIA202-HE_180918B	96	43135
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Antimony	0.00029	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Barium	0.043	mg/L		0.003	0.00002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Boron	0.069	mg/L	J	0.1	0.006	E200.7	09/17/18 14:14 / sld			ICP2-HE_180917B	51	R138225
Cadmium	0.00016	mg/L		0.00003	0.00003	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Calcium	61	mg/L		1	0.07	E200.7	09/17/18 14:14 / sld			ICP2-HE_180917B	51	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Copper	0.016	mg/L		0.001	0.0001	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Iron	0.03	mg/L		0.02	0.002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Lead	0.00011	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:14 / sld			ICP2-HE_180917B	51	R138225
Manganese	0.034	mg/L		0.001	0.0003	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:56 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	51	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:14 / sld			ICP2-HE_180917B	51	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-009
Collection Date: 09/12/18 17:05
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00052	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Sodium	35	mg/L		1	0.02	E200.7	09/17/18 14:14 / sld			ICP2-HE_180917B	51	R138225
Uranium	0.0053	mg/L		0.0002	0.00001	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Vanadium	0.0020	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
Zinc	0.036	mg/L		0.008	0.0003	E200.8	09/17/18 12:29 / sld			ICPMS205-H_180917A	50	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.063	mg/L		0.009	0.003	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Barium	0.040	mg/L		0.003	0.00009	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	77	43120
Boron	0.070	mg/L	J	0.1	0.005	E200.7	09/19/18 17:58 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	74	43120
Cadmium	0.00019	mg/L		0.00003	0.00003	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Calcium	64	mg/L		1	0.09	E200.7	09/18/18 14:41 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	59	43120
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Cobalt	0.00010	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Copper	0.018	mg/L		0.001	0.0002	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Iron	0.11	mg/L		0.02	0.004	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Lead	0.0007	mg/L		0.0003	0.00004	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Magnesium	15	mg/L		1	0.2	E200.7	09/18/18 14:41 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	59	43120
Manganese	0.052	mg/L		0.001	0.0003	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Mercury	4.7E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 14:23 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	78	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Potassium	6	mg/L		1	0.06	E200.7	09/18/18 14:41 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	59	43120
Selenium	0.00042	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Silver	0.000010	mg/L	J	0.0002	9E-06	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Sodium	37	mg/L		1	0.03	E200.7	09/18/18 14:41 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	59	43120
Uranium	0.0055	mg/L		0.0002	9E-06	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Vanadium	0.0033	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120
Zinc	0.046	mg/L		0.008	0.001	E200.8	09/18/18 13:03 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	110	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-010
Collection Date: 09/12/18 16:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:39 / cm			l24 (14410200)_180914A	18	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 20:05 / SR			PHSC_101-H_180914A	154	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:05 / SR			PHSC_101-H_180914A	154	R138171
Chloride	53	mg/L		1	0.009	E300.0	09/15/18 10:59 / SR			IC METROHM_180914A	77	R138214
Sulfate	108	mg/L		1	0.01	E300.0	09/15/18 10:59 / SR			IC METROHM_180914A	77	R138214
Hardness as CaCO3	208	mg/L		1	1	A2340 B	09/17/18 14:18 / SR			CALC_180919A	476	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:01 / km			FIA203-HE_180917B	31	R138227
Nitrogen, Nitrate+Nitrite as N	0.54	mg/L		0.02	0.009	E353.2	09/20/18 14:57 / km			FIA203-HE_180920C	22	R138356
Nitrogen, Total	0.82	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:32 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	43	43129
Phosphorus, Total as P	0.077	mg/L		0.003	0.0004	E365.1	09/18/18 16:47 / km	09/18/18 10:48	E365.1	FIA202-HE_180918B	97	43135
METALS, DISSOLVED												
Aluminum	0.005	mg/L	J	0.009	0.003	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Antimony	0.00029	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Barium	0.040	mg/L		0.003	0.00002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Boron	0.069	mg/L	J	0.1	0.006	E200.7	09/17/18 14:18 / sld			ICP2-HE_180917B	52	R138225
Cadmium	0.00015	mg/L		0.00003	0.00003	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Calcium	61	mg/L		1	0.07	E200.7	09/17/18 14:18 / sld			ICP2-HE_180917B	52	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Copper	0.014	mg/L		0.001	0.0001	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Iron	0.03	mg/L		0.02	0.002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Lead	0.00011	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:18 / sld			ICP2-HE_180917B	52	R138225
Manganese	0.027	mg/L		0.001	0.0003	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 12:59 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	52	43148
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:18 / sld			ICP2-HE_180917B	52	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-010
Collection Date: 09/12/18 16:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00049	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Sodium	36	mg/L		1	0.02	E200.7	09/17/18 14:18 / sld			ICP2-HE_180917B	52	R138225
Uranium	0.0052	mg/L		0.0002	0.00001	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Vanadium	0.0020	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
Zinc	0.032	mg/L		0.008	0.0003	E200.8	09/17/18 12:31 / sld			ICPMS205-H_180917A	51	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.041	mg/L		0.009	0.003	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Barium	0.037	mg/L		0.003	0.00009	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:08 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	78	43120
Boron	0.075	mg/L	J	0.1	0.005	E200.7	09/19/18 18:02 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	75	43120
Cadmium	0.00015	mg/L		0.00003	0.00003	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Calcium	61	mg/L		1	0.09	E200.7	09/18/18 14:45 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	60	43120
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Cobalt	0.00010	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Copper	0.016	mg/L		0.001	0.0002	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Iron	0.10	mg/L		0.02	0.004	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Lead	0.0005	mg/L		0.0003	0.00004	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 14:45 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	60	43120
Manganese	0.034	mg/L		0.001	0.0003	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Mercury	3.6E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 14:27 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	133	43149
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Potassium	6	mg/L		1	0.06	E200.7	09/18/18 14:45 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	60	43120
Selenium	0.00037	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Sodium	37	mg/L		1	0.03	E200.7	09/18/18 14:45 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	60	43120
Uranium	0.0053	mg/L		0.0002	9E-06	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Vanadium	0.0032	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120
Zinc	0.038	mg/L		0.008	0.001	E200.8	09/18/18 13:05 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	111	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-011
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	1	mg/L		1	0.3	A2540 D	09/14/18 14:39 / cm			l24 (14410200)_180914A	: 19	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 20:12 / SR			PHSC_101-H_180914A	: 156	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:12 / SR			PHSC_101-H_180914A	: 156	R138171
Chloride	52	mg/L		1	0.009	E300.0	09/15/18 11:13 / SR			IC METROHM_180914A	: 78	R138214
Sulfate	111	mg/L		1	0.01	E300.0	09/15/18 11:13 / SR			IC METROHM_180914A	: 78	R138214
Hardness as CaCO3	213	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	: 6	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:02 / km			FIA203-HE_180917B	: 32	R138227
Nitrogen, Nitrate+Nitrite as N	0.79	mg/L		0.02	0.009	E353.2	09/20/18 14:58 / km			FIA203-HE_180920C	: 23	R138356
Nitrogen, Total	1.11	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:35 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 46	43129
Phosphorus, Total as P	0.075	mg/L		0.003	0.0004	E365.1	09/19/18 16:21 / km	09/19/18 09:12	E365.1	FIA202-HE_180919A	: 23	43146
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Antimony	0.00028	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Barium	0.038	mg/L		0.003	0.00002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Boron	0.071	mg/L	J	0.1	0.006	E200.7	09/17/18 14:22 / sld			ICP2-HE_180917B	: 53	R138225
Cadmium	0.00014	mg/L		0.00003	0.00003	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Calcium	62	mg/L		1	0.07	E200.7	09/17/18 14:22 / sld			ICP2-HE_180917B	: 53	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Copper	0.014	mg/L		0.001	0.0001	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Iron	0.03	mg/L		0.02	0.002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Lead	0.00008	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:22 / sld			ICP2-HE_180917B	: 53	R138225
Manganese	0.013	mg/L		0.001	0.0003	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Mercury	1.1E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:02 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 53	43148
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	: 52	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:22 / sld			ICP2-HE_180917B	: 53	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-011
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00048	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	52	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	52	R138224
Sodium	36	mg/L		1	0.02	E200.7	09/17/18 14:22 / sld			ICP2-HE_180917B	53	R138225
Uranium	0.0053	mg/L		0.0002	0.00001	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	52	R138224
Vanadium	0.0020	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	52	R138224
Zinc	0.024	mg/L		0.008	0.0003	E200.8	09/17/18 12:33 / sld			ICPMS205-H_180917A	52	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.029	mg/L		0.009	0.003	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Barium	0.037	mg/L		0.003	0.00009	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	79	43120
Boron	0.078	mg/L	J	0.1	0.005	E200.7	09/19/18 18:06 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	76	43120
Cadmium	0.00015	mg/L		0.00003	0.00003	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Calcium	62	mg/L		1	0.09	E200.7	09/18/18 14:49 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	61	43120
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Cobalt	0.00008	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Copper	0.016	mg/L		0.001	0.0002	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Iron	0.07	mg/L		0.02	0.004	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Lead	0.0004	mg/L		0.0003	0.00004	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 14:49 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	61	43120
Manganese	0.021	mg/L		0.001	0.0003	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Mercury	3.9E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 14:31 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	134	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Potassium	7	mg/L		1	0.06	E200.7	09/18/18 14:49 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	61	43120
Selenium	0.00037	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Sodium	38	mg/L		1	0.03	E200.7	09/18/18 14:49 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	61	43120
Uranium	0.0054	mg/L		0.0002	9E-06	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Vanadium	0.0033	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120
Zinc	0.034	mg/L		0.008	0.001	E200.8	09/18/18 13:07 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	112	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-012
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	1	mg/L		1	0.3	A2540 D	09/14/18 14:41 / cm			l24 (14410200)_180914A	: 20	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 20:19 / SR			PHSC_101-H_180914A	: 158	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:19 / SR			PHSC_101-H_180914A	: 158	R138171
Chloride	52	mg/L		1	0.009	E300.0	09/15/18 11:27 / SR			IC METROHM_180914A	: 79	R138214
Sulfate	111	mg/L		1	0.01	E300.0	09/15/18 11:27 / SR			IC METROHM_180914A	: 79	R138214
Hardness as CaCO3	211	mg/L		1	1	A2340 B	09/17/18 14:26 / SR			CALC_180919A	: 487	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:03 / km			FIA203-HE_180917B	: 33	R138227
Nitrogen, Nitrate+Nitrite as N	0.79	mg/L		0.02	0.009	E353.2	09/20/18 15:05 / km			FIA203-HE_180920C	: 26	R138356
Nitrogen, Total	1.12	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:36 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 47	43129
Phosphorus, Total as P	0.079	mg/L		0.003	0.0004	E365.1	09/19/18 16:37 / km	09/19/18 09:12	E365.1	FIA202-HE_180919A	: 37	43146
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Antimony	0.00032	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Barium	0.041	mg/L		0.003	0.00002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Boron	0.072	mg/L	J	0.1	0.006	E200.7	09/17/18 14:26 / sld			ICP2-HE_180917B	: 54	R138225
Cadmium	0.00016	mg/L		0.00003	0.00003	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Calcium	62	mg/L		1	0.07	E200.7	09/17/18 14:26 / sld			ICP2-HE_180917B	: 54	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Copper	0.014	mg/L		0.001	0.0001	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Iron	0.03	mg/L		0.02	0.002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Lead	0.00009	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Magnesium	14	mg/L		1	0.1	E200.7	09/17/18 14:26 / sld			ICP2-HE_180917B	: 54	R138225
Manganese	0.013	mg/L		0.001	0.0003	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 13:12 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 56	43148
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	: 53	R138224
Potassium	6	mg/L		1	0.06	E200.7	09/17/18 14:26 / sld			ICP2-HE_180917B	: 54	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-012
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00048	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	53	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	53	R138224
Sodium	36	mg/L		1	0.02	E200.7	09/17/18 14:26 / sld			ICP2-HE_180917B	54	R138225
Uranium	0.0055	mg/L		0.0002	0.00001	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	53	R138224
Vanadium	0.0021	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	53	R138224
Zinc	0.025	mg/L		0.008	0.0003	E200.8	09/17/18 12:35 / sld			ICPMS205-H_180917A	53	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.030	mg/L		0.009	0.003	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Barium	0.037	mg/L		0.003	0.00009	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:12 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	80	43120
Boron	0.076	mg/L	J	0.1	0.005	E200.7	09/19/18 18:10 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	77	43120
Cadmium	0.00016	mg/L		0.00003	0.00003	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Calcium	63	mg/L		1	0.09	E200.7	09/18/18 14:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	62	43120
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Cobalt	0.00009	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Copper	0.016	mg/L		0.001	0.0002	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Iron	0.08	mg/L		0.02	0.004	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Lead	0.0004	mg/L		0.0003	0.00004	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Magnesium	14	mg/L		1	0.2	E200.7	09/18/18 14:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	62	43120
Manganese	0.021	mg/L		0.001	0.0003	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Mercury	4.6E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 14:40 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	137	43149
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Potassium	7	mg/L		1	0.06	E200.7	09/18/18 14:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	62	43120
Selenium	0.00034	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Sodium	38	mg/L		1	0.03	E200.7	09/18/18 14:52 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	62	43120
Uranium	0.0055	mg/L		0.0002	9E-06	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Vanadium	0.0033	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120
Zinc	0.034	mg/L		0.008	0.001	E200.8	09/18/18 13:09 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	113	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-013
Collection Date: 09/12/18 13:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	1	mg/L		1	0.3	A2540 D	09/14/18 14:42 / cm			l24 (14410200)_180914A	: 21	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 20:25 / SR			PHSC_101-H_180914A	: 160	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:25 / SR			PHSC_101-H_180914A	: 160	R138171
Chloride	42	mg/L		1	0.009	E300.0	09/15/18 11:41 / SR			IC METROHM_180914A	: 80	R138214
Sulfate	95	mg/L		1	0.01	E300.0	09/15/18 11:41 / SR			IC METROHM_180914A	: 80	R138214
Hardness as CaCO3	200	mg/L		1	1	A2340 B	09/20/18 08:01 / sld			WATERCALC_180920A	: 7	R138330
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:04 / km			FIA203-HE_180917B	: 34	R138227
Nitrogen, Nitrate+Nitrite as N	0.51	mg/L		0.02	0.009	E353.2	09/20/18 15:09 / km			FIA203-HE_180920C	: 29	R138356
Nitrogen, Total	0.76	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:38 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 48	43129
Phosphorus, Total as P	0.068	mg/L		0.003	0.0004	E365.1	09/19/18 16:39 / km	09/19/18 09:12	E365.1	FIA202-HE_180919A	: 38	43146
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Antimony	0.00027	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Barium	0.038	mg/L		0.003	0.00002	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/18/18 13:53 / sld			ICPMS205-H_180918A	: 136	R138264
Boron	0.061	mg/L	J	0.1	0.006	E200.7	09/17/18 14:37 / sld			ICP2-HE_180917B	: 57	R138225
Cadmium	0.00013	mg/L		0.00003	0.00003	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Calcium	57	mg/L		1	0.07	E200.7	09/17/18 14:37 / sld			ICP2-HE_180917B	: 57	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Cobalt	0.00022	mg/L	J	0.01	0.00009	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Copper	0.011	mg/L		0.001	0.0001	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Iron	0.02	mg/L		0.02	0.002	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Lead	0.00004	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Magnesium	12	mg/L		1	0.1	E200.7	09/17/18 14:37 / sld			ICP2-HE_180917B	: 57	R138225
Manganese	0.013	mg/L		0.001	0.0003	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Mercury	1.3E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:15 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 57	43148
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	: 54	R138224
Potassium	5	mg/L		1	0.06	E200.7	09/17/18 14:37 / sld			ICP2-HE_180917B	: 57	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-013
Collection Date: 09/12/18 13:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00042	mg/L	J	0.001	0.00002	E200.8	09/18/18 13:53 / sld			ICPMS205-H_180918A	136	R138264
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	54	R138224
Sodium	30	mg/L		1	0.02	E200.7	09/17/18 14:37 / sld			ICP2-HE_180917B	57	R138225
Uranium	0.0044	mg/L		0.0002	0.00001	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	54	R138224
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	54	R138224
Zinc	0.026	mg/L		0.008	0.0003	E200.8	09/17/18 12:37 / sld			ICPMS205-H_180917A	54	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.030	mg/L		0.009	0.003	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Barium	0.036	mg/L		0.003	0.00009	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/19/18 13:14 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	81	43120
Boron	0.061	mg/L	J	0.1	0.005	E200.7	09/19/18 18:21 / sld	09/17/18 08:42	E200.2	ICP2-HE_180919B	80	43120
Cadmium	0.00014	mg/L		0.00003	0.00003	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Calcium	58	mg/L		1	0.09	E200.7	09/18/18 14:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	63	43120
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Cobalt	0.00030	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Copper	0.013	mg/L		0.001	0.0002	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Iron	0.07	mg/L		0.02	0.004	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Lead	0.0004	mg/L		0.0003	0.00004	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Magnesium	13	mg/L		1	0.2	E200.7	09/18/18 14:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	63	43120
Manganese	0.021	mg/L		0.001	0.0003	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Mercury	3.5E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 14:44 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	138	43149
Molybdenum	0.0046	mg/L	J	0.005	0.00002	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Nickel	0.0007	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Potassium	6	mg/L		1	0.06	E200.7	09/18/18 14:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	63	43120
Selenium	0.00038	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Sodium	31	mg/L		1	0.03	E200.7	09/18/18 14:56 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	63	43120
Uranium	0.0047	mg/L		0.0002	9E-06	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Vanadium	0.0031	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120
Zinc	0.035	mg/L		0.008	0.001	E200.8	09/18/18 13:10 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	114	43120

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-014
Collection Date: 09/12/18 11:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	09/14/18 14:42 / cm			l24 (14410200)_180914A	: 22	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	09/14/18 20:31 / SR			PHSC_101-H_180914A	: 162	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:31 / SR			PHSC_101-H_180914A	: 162	R138171
Chloride	41	mg/L		1	0.009	E300.0	09/15/18 11:55 / SR			IC METROHM_180914A	: 81	R138214
Sulfate	97	mg/L		1	0.01	E300.0	09/15/18 11:55 / SR			IC METROHM_180914A	: 81	R138214
Hardness as CaCO3	199	mg/L		1	1	A2340 B	09/17/18 14:52 / SR			CALC_180919A	: 498	R138289
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:05 / km			FIA203-HE_180917B	: 35	R138227
Nitrogen, Nitrate+Nitrite as N	0.42	mg/L		0.02	0.009	E353.2	09/20/18 15:10 / km			FIA203-HE_180920C	: 30	R138356
Nitrogen, Total	0.67	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:39 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 49	43129
Phosphorus, Total as P	0.069	mg/L		0.003	0.0004	E365.1	09/19/18 16:45 / km	09/19/18 09:12	E365.1	FIA202-HE_180919A	: 44	43146
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Antimony	0.00028	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Barium	0.038	mg/L		0.003	0.00002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Boron	0.057	mg/L	J	0.1	0.006	E200.7	09/17/18 14:52 / sld			ICP2-HE_180917B	: 61	R138225
Cadmium	0.00013	mg/L		0.00003	0.00003	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Calcium	58	mg/L		1	0.07	E200.7	09/17/18 14:52 / sld			ICP2-HE_180917B	: 61	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Cobalt	0.00021	mg/L	J	0.01	0.00009	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Copper	0.011	mg/L		0.001	0.0001	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Iron	0.02	mg/L		0.02	0.002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Lead	0.00006	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Magnesium	13	mg/L		1	0.1	E200.7	09/17/18 14:52 / sld			ICP2-HE_180917B	: 61	R138225
Manganese	0.020	mg/L		0.001	0.0003	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Mercury	1.5E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:19 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 58	43148
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	: 61	R138224
Potassium	5	mg/L		1	0.06	E200.7	09/17/18 14:52 / sld			ICP2-HE_180917B	: 61	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-014
Collection Date: 09/12/18 11:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00040	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	61	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	61	R138224
Sodium	28	mg/L		1	0.02	E200.7	09/17/18 14:52 / sld			ICP2-HE_180917B	61	R138225
Uranium	0.0045	mg/L		0.0002	0.00001	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	61	R138224
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	61	R138224
Zinc	0.030	mg/L		0.008	0.0003	E200.8	09/17/18 12:50 / sld			ICPMS205-H_180917A	61	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.049	mg/L		0.009	0.003	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Barium	0.036	mg/L		0.003	0.00009	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Boron	0.063	mg/L	J	0.1	0.005	E200.7	09/19/18 18:32 / sld			ICP2-HE_180919B	83	R138329
Cadmium	0.00014	mg/L		0.00003	0.00003	E200.8	09/21/18 10:29 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	42	43177
Calcium	56	mg/L		1	0.09	E200.7	09/18/18 15:57 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	79	43121
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Cobalt	0.00028	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Copper	0.013	mg/L		0.001	0.0002	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Iron	0.09	mg/L		0.02	0.004	E200.8	09/21/18 10:29 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	42	43177
Lead	0.0005	mg/L		0.0003	0.00004	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Magnesium	12	mg/L		1	0.2	E200.7	09/18/18 15:57 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	79	43121
Manganese	0.028	mg/L		0.001	0.0003	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Mercury	3.9E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 14:47 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	139	43149
Molybdenum	0.0045	mg/L	J	0.005	0.00002	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Potassium	5	mg/L		1	0.06	E200.7	09/18/18 15:57 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	79	43121
Selenium	0.00031	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Sodium	30	mg/L		1	0.03	E200.7	09/18/18 15:57 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	79	43121
Uranium	0.0045	mg/L		0.0002	9E-06	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Vanadium	0.0031	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121
Zinc	0.038	mg/L		0.008	0.001	E200.8	09/18/18 13:24 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	121	43121

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-015
Collection Date: 09/12/18 10:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	4	mg/L		1	0.3	A2540 D	09/14/18 14:42 / cm			l24 (14410200)_180914A	: 23	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 20:38 / SR			PHSC_101-H_180914A	: 164	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:38 / SR			PHSC_101-H_180914A	: 164	R138171
Chloride	41	mg/L		1	0.009	E300.0	09/15/18 12:10 / SR			IC METROHM_180914A	: 82	R138214
Sulfate	96	mg/L		1	0.01	E300.0	09/15/18 12:10 / SR			IC METROHM_180914A	: 82	R138214
Hardness as CaCO3	194	mg/L		1	1	A2340 B	09/21/18 13:45 / sld			WATERCALC_180921B	: 1	R138390
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:07 / km			FIA203-HE_180917B	: 36	R138227
Nitrogen, Nitrate+Nitrite as N	0.41	mg/L		0.02	0.009	E353.2	09/20/18 15:11 / km			FIA203-HE_180920C	: 31	R138356
Nitrogen, Total	0.68	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:40 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 50	43129
Phosphorus, Total as P	0.076	mg/L		0.003	0.0004	E365.1	09/19/18 16:50 / km	09/19/18 09:14	E365.1	FIA202-HE_180919A	: 48	43147
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Antimony	0.00030	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Barium	0.036	mg/L		0.003	0.00002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Boron	0.057	mg/L	J	0.1	0.006	E200.7	09/17/18 14:56 / sld			ICP2-HE_180917B	: 62	R138225
Cadmium	0.00022	mg/L		0.00003	0.00003	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Calcium	58	mg/L		1	0.07	E200.7	09/17/18 14:56 / sld			ICP2-HE_180917B	: 62	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Cobalt	0.00023	mg/L	J	0.01	0.00009	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Copper	0.012	mg/L		0.001	0.0001	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Iron	0.02	mg/L		0.02	0.002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Lead	0.00005	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Magnesium	13	mg/L		1	0.1	E200.7	09/17/18 14:56 / sld			ICP2-HE_180917B	: 62	R138225
Manganese	0.027	mg/L		0.001	0.0003	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Mercury	1.2E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:22 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 59	43148
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	: 62	R138224
Potassium	5	mg/L		1	0.06	E200.7	09/17/18 14:56 / sld			ICP2-HE_180917B	: 62	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-015
Collection Date: 09/12/18 10:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00046	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	62	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	62	R138224
Sodium	29	mg/L		1	0.02	E200.7	09/17/18 14:56 / sld			ICP2-HE_180917B	62	R138225
Uranium	0.0043	mg/L		0.0002	0.00001	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	62	R138224
Vanadium	0.0019	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	62	R138224
Zinc	0.049	mg/L		0.008	0.0003	E200.8	09/17/18 12:52 / sld			ICPMS205-H_180917A	62	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.098	mg/L		0.009	0.003	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Barium	0.037	mg/L		0.003	0.00009	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Boron	0.057	mg/L	J	0.1	0.005	E200.7	09/19/18 18:36 / sld			ICP2-HE_180919B	84	R138329
Cadmium	0.00028	mg/L		0.00003	0.00003	E200.8	09/21/18 10:31 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	43	43177
Calcium	57	mg/L		1	0.09	E200.7	09/18/18 16:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	80	43121
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Cobalt	0.00034	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Copper	0.016	mg/L		0.001	0.0002	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Iron	0.17	mg/L		0.02	0.004	E200.8	09/21/18 10:31 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	43	43177
Lead	0.0009	mg/L		0.0003	0.00004	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Magnesium	12	mg/L		1	0.2	E200.7	09/18/18 16:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	80	43121
Manganese	0.051	mg/L		0.001	0.0003	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Mercury	8.3E-06	mg/L		5E-06	1E-06	E245.1	09/21/18 14:50 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	140	43149
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Potassium	5	mg/L		1	0.06	E200.7	09/18/18 16:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	80	43121
Selenium	0.00032	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Silver	0.000013	mg/L	J	0.0002	9E-06	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Sodium	30	mg/L		1	0.03	E200.7	09/18/18 16:00 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	80	43121
Uranium	0.0045	mg/L		0.0002	9E-06	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Vanadium	0.0033	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121
Zinc	0.062	mg/L		0.008	0.001	E200.8	09/18/18 13:26 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	122	43121

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-016
Collection Date: 09/12/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	09/14/18 14:42 / cm			l24 (14410200)_180914A	: 24	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	09/14/18 20:50 / SR			PHSC_101-H_180914A	: 168	R138171
Bicarbonate as HCO3	ND	mg/L		4	2	A2320 B	09/14/18 20:50 / SR			PHSC_101-H_180914A	: 168	R138171
Chloride	ND	mg/L		1	0.009	E300.0	09/15/18 12:24 / SR			IC METROHM_180914A	: 83	R138214
Sulfate	0.02	mg/L	J	1	0.01	E300.0	09/15/18 12:24 / SR			IC METROHM_180914A	: 83	R138214
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	09/21/18 13:45 / sld			WATERCALC_180921B	: 2	R138390
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:10 / km			FIA203-HE_180917B	: 39	R138227
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	09/20/18 15:12 / km			FIA203-HE_180920C	: 32	R138356
Nitrogen, Total	ND	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:41 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 51	43129
Phosphorus, Total as P	ND	mg/L		0.003	0.0004	E365.1	09/19/18 16:54 / km	09/19/18 09:14	E365.1	FIA202-HE_180919A	: 52	43147
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Antimony	ND	mg/L		0.0005	0.00009	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Arsenic	ND	mg/L		0.001	0.00004	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Barium	0.0012	mg/L	J	0.003	0.00002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Boron	ND	mg/L		0.1	0.006	E200.7	09/17/18 14:59 / sld			ICP2-HE_180917B	: 63	R138225
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Calcium	ND	mg/L		1	0.07	E200.7	09/17/18 14:59 / sld			ICP2-HE_180917B	: 63	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Cobalt	ND	mg/L		0.01	0.00009	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Copper	ND	mg/L		0.001	0.0001	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Iron	ND	mg/L		0.02	0.002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Lead	ND	mg/L		0.0003	0.00003	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Magnesium	ND	mg/L		1	0.01	E200.7	09/17/18 14:59 / sld			ICP2-HE_180917B	: 63	R138225
Manganese	ND	mg/L		0.001	0.0003	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 13:25 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 60	43148
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Nickel	ND	mg/L		0.002	0.0002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	: 63	R138224
Potassium	ND	mg/L		1	0.06	E200.7	09/17/18 14:59 / sld			ICP2-HE_180917B	: 63	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-016
Collection Date: 09/12/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	63	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	63	R138224
Sodium	0.03	mg/L	J	1	0.02	E200.7	09/17/18 14:59 / sld			ICP2-HE_180917B	63	R138225
Uranium	ND	mg/L		0.0002	0.00001	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	63	R138224
Vanadium	ND	mg/L		0.1	0.00007	E200.8	09/17/18 12:54 / sld			ICPMS205-H_180917A	63	R138224
Zinc	0.010	mg/L		0.008	0.0003	E200.8	09/18/18 13:55 / sld			ICPMS205-H_180918A	137	R138264
METALS, TOTAL RECOVERABLE												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Arsenic	0.00011	mg/L	J	0.001	0.00004	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Barium	ND	mg/L		0.003	0.00009	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Boron	ND	mg/L		0.1	0.005	E200.7	09/19/18 18:55 / sld			ICP2-HE_180919B	89	R138329
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	09/21/18 10:33 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	44	43177
Calcium	ND	mg/L		1	0.09	E200.7	09/18/18 16:19 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	85	43121
Chromium	ND	mg/L		0.01	0.0001	E200.8	09/19/18 13:34 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180919A	91	43121
Cobalt	ND	mg/L		0.01	0.00006	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Copper	ND	mg/L		0.001	0.0002	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Iron	ND	mg/L		0.02	0.006	E200.7	09/18/18 16:19 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	85	43121
Lead	ND	mg/L		0.0003	0.00004	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Magnesium	ND	mg/L		1	0.009	E200.7	09/18/18 16:19 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	85	43121
Manganese	ND	mg/L		0.001	0.0003	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Mercury	ND	mg/L		5E-06	1E-06	E245.1	09/21/18 14:53 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	141	43149
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Nickel	0.0004	mg/L	J	0.002	0.0001	E200.8	09/21/18 10:33 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	44	43177
Potassium	ND	mg/L		1	0.06	E200.7	09/18/18 16:19 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	85	43121
Selenium	ND	mg/L		0.001	0.00005	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Silver	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Sodium	ND	mg/L		1	0.03	E200.7	09/18/18 16:19 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	85	43121
Uranium	ND	mg/L		0.0002	9E-06	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Vanadium	0.0015	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	09/18/18 13:28 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	123	43121

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-017
Collection Date: 09/12/18 08:40
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	6	mg/L		1	0.3	A2540 D	09/14/18 15:59 / cm			l24 (14410200)_180914A	: 27	TSS180914A
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	09/14/18 20:56 / SR			PHSC_101-H_180914A	: 170	R138171
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	09/14/18 20:56 / SR			PHSC_101-H_180914A	: 170	R138171
Chloride	40	mg/L		1	0.009	E300.0	09/15/18 12:38 / SR			IC METROHM_180914A	: 84	R138214
Sulfate	97	mg/L		1	0.01	E300.0	09/15/18 12:38 / SR			IC METROHM_180914A	: 84	R138214
Hardness as CaCO3	195	mg/L		1	1	A2340 B	09/21/18 13:45 / sld			WATERCALC_180921B	: 3	R138390
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	09/17/18 12:14 / km			FIA203-HE_180917B	: 42	R138227
Nitrogen, Nitrate+Nitrite as N	0.55	mg/L		0.02	0.009	E353.2	09/20/18 15:13 / km			FIA203-HE_180920C	: 33	R138356
Nitrogen, Total	0.84	mg/L		0.05	0.03	A4500 N-C	09/18/18 14:42 / km	09/17/18 12:05	A4500 N-	FIA203-HE_180918B	: 52	43129
Phosphorus, Total as P	0.077	mg/L		0.003	0.0004	E365.1	09/19/18 16:57 / km	09/19/18 09:14	E365.1	FIA202-HE_180919A	: 54	43147
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Antimony	0.00027	mg/L	J	0.0005	0.00009	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Barium	0.038	mg/L		0.003	0.00002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Boron	0.057	mg/L	J	0.1	0.006	E200.7	09/17/18 15:03 / sld			ICP2-HE_180917B	: 64	R138225
Cadmium	0.00023	mg/L		0.00003	0.00003	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Calcium	57	mg/L		1	0.07	E200.7	09/17/18 15:03 / sld			ICP2-HE_180917B	: 64	R138225
Chromium	ND	mg/L		0.01	0.0002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Cobalt	0.00024	mg/L	J	0.01	0.00009	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Copper	0.012	mg/L		0.001	0.0001	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Iron	0.02	mg/L		0.02	0.002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Lead	0.00007	mg/L	J	0.0003	0.00003	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Magnesium	12	mg/L		1	0.1	E200.7	09/17/18 15:03 / sld			ICP2-HE_180917B	: 64	R138225
Manganese	0.029	mg/L		0.001	0.0003	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Mercury	2.4E-06	mg/L	J	5E-06	1E-06	E245.1	09/21/18 13:28 / dck	09/19/18 11:29	E245.1	HGCV202-H_180921A	: 61	43148
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	: 64	R138224
Potassium	5	mg/L		1	0.06	E200.7	09/17/18 15:03 / sld			ICP2-HE_180917B	: 64	R138225

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18090303-017
Collection Date: 09/12/18 08:40
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00039	mg/L	J	0.001	0.00002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	64	R138224
Silver	ND	mg/L		0.0002	0.00002	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	64	R138224
Sodium	30	mg/L		1	0.02	E200.7	09/17/18 15:03 / sld			ICP2-HE_180917B	64	R138225
Uranium	0.0046	mg/L		0.0002	0.00001	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	64	R138224
Vanadium	0.0023	mg/L	J	0.1	0.00007	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	64	R138224
Zinc	0.048	mg/L		0.008	0.0003	E200.8	09/17/18 12:56 / sld			ICPMS205-H_180917A	64	R138224
METALS, TOTAL RECOVERABLE												
Aluminum	0.131	mg/L		0.009	0.003	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Antimony	0.0005	mg/L	J	0.0005	0.0001	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Barium	0.038	mg/L		0.003	0.00009	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Boron	0.057	mg/L	J	0.1	0.005	E200.7	09/19/18 19:06 / sld			ICP2-HE_180919B	92	R138329
Cadmium	0.00027	mg/L		0.00003	0.00003	E200.8	09/21/18 10:35 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	45	43177
Calcium	57	mg/L		1	0.09	E200.7	09/18/18 16:30 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	88	43121
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Cobalt	0.00036	mg/L	J	0.01	0.00006	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Copper	0.016	mg/L		0.001	0.0002	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Iron	0.19	mg/L		0.02	0.004	E200.8	09/21/18 10:35 / sld	09/20/18 08:32	E200.2	ICPMS205-H_180921A	45	43177
Lead	0.0011	mg/L		0.0003	0.00004	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Magnesium	13	mg/L		1	0.2	E200.7	09/18/18 16:30 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	88	43121
Manganese	0.062	mg/L		0.001	0.0003	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Mercury	8.8E-06	mg/L		5E-06	1E-06	E245.1	09/21/18 14:57 / dck	09/19/18 11:32	E245.1	HGCV202-H_180921A	142	43149
Molybdenum	0.0044	mg/L	J	0.005	0.00002	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Potassium	5	mg/L		1	0.06	E200.7	09/18/18 16:30 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	88	43121
Selenium	0.00033	mg/L	J	0.001	0.00005	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Silver	0.000018	mg/L	J	0.0002	9E-06	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Sodium	29	mg/L		1	0.03	E200.7	09/18/18 16:30 / sld	09/17/18 08:42	E200.2	ICP2-HE_180918A	88	43121
Uranium	0.0047	mg/L		0.0002	9E-06	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Vanadium	0.0038	mg/L	J	0.1	0.00002	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121
Zinc	0.066	mg/L		0.008	0.001	E200.8	09/18/18 13:30 / sld	09/17/18 08:42	E200.2	ICPMS205-H_180918A	124	43121

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-018
Collection Date: 09/13/18 13:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	63.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			)RYING OVEN 2_181003A	: 3	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	0.7	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 2	R138581
3050 EXTRACTABLE METALS												
Aluminum	16800	mg/kg-dry	D	30	30	SW6010B	10/01/18 21:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 97	43229
Antimony	ND	mg/kg-dry		5	2	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Arsenic	229	mg/kg-dry		5	0.5	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Barium	788	mg/kg-dry		5	3	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Beryllium	ND	mg/kg-dry		5	0.8	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Boron	17	mg/kg-dry		10	10	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Cadmium	25.3	mg/kg-dry		0.2	0.2	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Chromium	145	mg/kg-dry		5	2	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Cobalt	38	mg/kg-dry		5	3	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Copper	1170	mg/kg-dry		5	4	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Iron	38400	mg/kg-dry	D	100	100	SW6010B	10/01/18 21:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 97	43229
Lead	694	mg/kg-dry		5	1	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Manganese	18200	mg/kg-dry		5	2	SW6010B	10/01/18 21:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 97	43229
Molybdenum	23	mg/kg-dry		5	0.5	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Nickel	91	mg/kg-dry		5	1	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Selenium	2.5	mg/kg-dry	J	5	0.9	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Silver	4.8	mg/kg-dry	J	5	0.5	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Uranium	9	mg/kg-dry		5	0.3	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Vanadium	106	mg/kg-dry		1	1	SW6020	09/27/18 18:34 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 32	43229
Zinc	4660	mg/kg-dry		8	8	SW6010B	10/01/18 21:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 97	43229
METALS, TOTAL												
Mercury	1.1	mg/kg-dry	D	0.42	0.14	SW7471B	10/02/18 13:37 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	: 13	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-019
Collection Date: 09/13/18 13:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.1	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			)RYING OVEN 2_181003A	: 5	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	23.6	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 3	R138581
3050 EXTRACTABLE METALS												
Aluminum	3700	mg/kg-dry	D	10	10	SW6010B	10/01/18 21:40 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 98	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Arsenic	25	mg/kg-dry		5	0.2	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Barium	94	mg/kg-dry		5	1	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Boron	ND	mg/kg-dry		5	4	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Cadmium	1.2	mg/kg-dry		0.2	0.1	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Chromium	11	mg/kg-dry		5	0.7	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Cobalt	5	mg/kg-dry		5	1	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Copper	134	mg/kg-dry		5	2	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Iron	15700	mg/kg-dry	D	70	70	SW6010B	10/01/18 21:40 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 98	43229
Lead	92	mg/kg-dry		5	0.4	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Manganese	1480	mg/kg-dry		5	1	SW6010B	10/01/18 21:40 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 98	43229
Molybdenum	3.8	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Nickel	4.5	mg/kg-dry	J	5	0.5	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Silver	1.5	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Uranium	1.5	mg/kg-dry	J	5	0.1	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Vanadium	35	mg/kg-dry		1	0.4	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
Zinc	568	mg/kg-dry	D	10	10	SW6020	09/27/18 18:36 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 33	43229
METALS, TOTAL												
Mercury	0.13	mg/kg-dry		0.10	0.0029	SW7471B	10/02/18 15:04 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	: 42	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-020
Collection Date: 09/13/18 13:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	16.8	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			)RYING OVEN 2_181003A	7	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	46.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	4	R138581
3050 EXTRACTABLE METALS												
Aluminum	3170	mg/kg-dry	D	10	10	SW6010B	10/01/18 22:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	113	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Arsenic	18	mg/kg-dry		5	0.2	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Barium	108	mg/kg-dry		5	1	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Boron	ND	mg/kg-dry		5	4	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Cadmium	0.8	mg/kg-dry		0.2	0.1	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Chromium	4.7	mg/kg-dry	J	5	0.7	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Cobalt	3	mg/kg-dry	J	5	1	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Copper	83	mg/kg-dry		5	2	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Iron	6700	mg/kg-dry	D	60	60	SW6010B	10/01/18 22:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	113	43229
Lead	71	mg/kg-dry		5	0.4	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Manganese	1900	mg/kg-dry		5	1	SW6010B	10/01/18 22:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	113	43229
Molybdenum	1.0	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Nickel	3.2	mg/kg-dry	J	5	0.4	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Silver	1.6	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Vanadium	13	mg/kg-dry		1	0.4	SW6020	09/27/18 18:53 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	42	43229
Zinc	280	mg/kg-dry		5	3	SW6010B	10/01/18 22:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	113	43229
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0031	SW7471B	10/02/18 16:07 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	70	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-021
Collection Date: 09/13/18 13:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	56.7	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 11	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.9	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 5	R138581
3050 EXTRACTABLE METALS												
Aluminum	16700	mg/kg-dry	D	20	20	SW6010B	10/02/18 02:58 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 183	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Arsenic	241	mg/kg-dry		5	0.5	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Barium	475	mg/kg-dry		5	2	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Beryllium	0.9	mg/kg-dry	J	5	0.7	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Boron	11	mg/kg-dry		5	2	SW6010B	10/02/18 02:58 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 183	43246
Cadmium	8.7	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Chromium	86	mg/kg-dry		5	1	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Cobalt	20	mg/kg-dry		5	2	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Copper	1060	mg/kg-dry		5	4	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Iron	60000	mg/kg-dry	D	100	100	SW6010B	10/02/18 02:58 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 183	43246
Lead	554	mg/kg-dry		5	0.9	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Manganese	8280	mg/kg-dry		5	2	SW6010B	10/02/18 02:58 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 183	43246
Molybdenum	20	mg/kg-dry		5	0.4	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Nickel	47	mg/kg-dry		5	0.9	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Selenium	1.9	mg/kg-dry	J	5	0.8	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Silver	7	mg/kg-dry		5	0.4	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Uranium	10	mg/kg-dry		5	0.2	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Vanadium	93	mg/kg-dry		1	0.9	SW6020	09/28/18 12:37 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 36	43246
Zinc	2370	mg/kg-dry		7	7	SW6010B	10/02/18 02:58 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 183	43246
METALS, TOTAL												
Mercury	1.3	mg/kg-dry		0.16	0.053	SW7471B	10/02/18 13:46 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	: 14	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-022
Collection Date: 09/13/18 13:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.1	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	19	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	33.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	6	R138581
3050 EXTRACTABLE METALS												
Aluminum	3970	mg/kg-dry	D	10	10	SW6010B	10/01/18 22:55 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	118	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Arsenic	24	mg/kg-dry		5	0.2	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Barium	77	mg/kg-dry		5	1	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Boron	ND	mg/kg-dry		5	5	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Cadmium	0.9	mg/kg-dry		0.2	0.1	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Chromium	9	mg/kg-dry		5	0.8	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Cobalt	5	mg/kg-dry	J	5	1	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Copper	150	mg/kg-dry		5	2	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Iron	18600	mg/kg-dry	D	70	70	SW6010B	10/01/18 22:55 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	118	43229
Lead	55	mg/kg-dry		5	0.5	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Manganese	1220	mg/kg-dry		5	1	SW6010B	10/01/18 22:55 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	118	43229
Molybdenum	2.6	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Nickel	4.2	mg/kg-dry	J	5	0.5	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Silver	1.0	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Uranium	1.5	mg/kg-dry	J	5	0.1	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Vanadium	37	mg/kg-dry		1	0.5	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
Zinc	450	mg/kg-dry	D	20	20	SW6020	09/27/18 18:57 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	44	43229
METALS, TOTAL												
Mercury	0.11	mg/kg-dry		0.10	0.0034	SW7471B	10/02/18 15:12 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	46	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-023
Collection Date: 09/13/18 13:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	15.2	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	21	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	26.7	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	7	R138581
3050 EXTRACTABLE METALS												
Aluminum	3160	mg/kg-dry	D	10	10	SW6010B	10/01/18 22:59 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	119	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Arsenic	50	mg/kg-dry		5	0.2	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Barium	55	mg/kg-dry		5	1	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Boron	ND	mg/kg-dry		5	4	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Chromium	3.8	mg/kg-dry	J	5	0.7	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Cobalt	3	mg/kg-dry	J	5	1	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Copper	116	mg/kg-dry		5	2	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Iron	8650	mg/kg-dry	D	60	60	SW6010B	10/01/18 22:59 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	119	43229
Lead	49	mg/kg-dry		5	0.4	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Manganese	787	mg/kg-dry		5	1	SW6010B	10/01/18 22:59 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	119	43229
Molybdenum	6	mg/kg-dry		5	0.2	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Nickel	2.6	mg/kg-dry	J	5	0.4	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Vanadium	13	mg/kg-dry		1	0.4	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
Zinc	279	mg/kg-dry	D	10	10	SW6020	09/27/18 18:59 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	45	43229
METALS, TOTAL												
Mercury	0.08	mg/kg-dry	J	0.10	0.0029	SW7471B	10/02/18 16:15 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	74	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve <0.063
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-024
Collection Date: 09/13/18 12:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	59.5	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	23	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.7	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	8	R138581
3050 EXTRACTABLE METALS												
Aluminum	24300	mg/kg-dry	D	20	20	SW6010B	10/01/18 23:02 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	120	43229
Antimony	ND	mg/kg-dry		5	2	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Arsenic	112	mg/kg-dry		5	0.5	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Barium	385	mg/kg-dry		5	2	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Beryllium	0.8	mg/kg-dry	J	5	0.7	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Boron	12	mg/kg-dry		5	2	SW6010B	10/01/18 23:02 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	120	43229
Cadmium	12.1	mg/kg-dry		0.2	0.2	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Chromium	69	mg/kg-dry		5	2	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Cobalt	15	mg/kg-dry		5	2	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Copper	1090	mg/kg-dry		5	4	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Iron	36900	mg/kg-dry	D	100	100	SW6010B	10/01/18 23:02 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	120	43229
Lead	506	mg/kg-dry		5	0.9	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Manganese	3250	mg/kg-dry		5	2	SW6010B	10/01/18 23:02 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	120	43229
Molybdenum	15	mg/kg-dry		5	0.4	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Nickel	35	mg/kg-dry		5	1	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Selenium	1.9	mg/kg-dry	J	5	0.9	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Silver	7	mg/kg-dry		5	0.4	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Uranium	12	mg/kg-dry		5	0.2	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Vanadium	85	mg/kg-dry		1	0.9	SW6020	09/27/18 19:01 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	46	43229
Zinc	2350	mg/kg-dry		8	8	SW6010B	10/01/18 23:02 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	120	43229
METALS, TOTAL												
Mercury	2.8	mg/kg-dry		0.19	0.065	SW7471B	10/02/18 13:57 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	18	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-025
Collection Date: 09/13/18 12:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.6	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 25	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	31.1	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 9	R138581
3050 EXTRACTABLE METALS												
Aluminum	5570	mg/kg-dry	D	10	10	SW6010B	10/01/18 23:28 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 127	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Arsenic	18	mg/kg-dry		5	0.2	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Barium	100	mg/kg-dry		5	1	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Boron	ND	mg/kg-dry		5	4	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Cadmium	2.2	mg/kg-dry		0.2	0.1	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Chromium	8	mg/kg-dry		5	0.8	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Cobalt	4	mg/kg-dry	J	5	1	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Copper	251	mg/kg-dry		5	2	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Iron	11800	mg/kg-dry	D	70	70	SW6010B	10/01/18 23:28 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 127	43229
Lead	71	mg/kg-dry		5	0.5	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Manganese	807	mg/kg-dry		5	1	SW6010B	10/01/18 23:28 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 127	43229
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Nickel	4.0	mg/kg-dry	J	5	0.5	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Silver	2.4	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Uranium	2.1	mg/kg-dry	J	5	0.1	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Vanadium	27	mg/kg-dry		1	0.5	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
Zinc	477	mg/kg-dry	D	20	20	SW6020	09/27/18 19:24 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 58	43229
METALS, TOTAL												
Mercury	0.28	mg/kg-dry		0.10	0.0033	SW7471B	10/02/18 15:14 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	: 47	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-026
Collection Date: 09/13/18 12:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 27	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	34.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 10	R138581
3050 EXTRACTABLE METALS												
Aluminum	3520	mg/kg-dry	D	10	10	SW6010B	10/01/18 23:32 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 128	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Arsenic	12	mg/kg-dry		5	0.2	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Barium	181	mg/kg-dry		5	1	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Boron	ND	mg/kg-dry		5	4	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Chromium	3.0	mg/kg-dry	J	5	0.8	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Cobalt	4	mg/kg-dry	J	5	1	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Copper	64	mg/kg-dry		5	2	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Iron	6640	mg/kg-dry	D	70	70	SW6010B	10/01/18 23:32 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 128	43229
Lead	38	mg/kg-dry		5	0.5	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Manganese	825	mg/kg-dry		5	1	SW6010B	10/01/18 23:32 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 128	43229
Molybdenum	0.7	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Nickel	2.7	mg/kg-dry	J	5	0.5	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Silver	0.7	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Vanadium	14	mg/kg-dry		1	0.5	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
Zinc	197	mg/kg-dry	D	20	20	SW6020	09/27/18 19:26 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 59	43229
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.0032	SW7471B	10/02/18 16:17 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 75	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-027
Collection Date: 09/13/18 11:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	58.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 33	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	16.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 11	R138581
3050 EXTRACTABLE METALS												
Aluminum	28400	mg/kg-dry	D	20	20	SW6010B	10/01/18 23:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 129	43229
Antimony	ND	mg/kg-dry		5	2	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Arsenic	25	mg/kg-dry		5	0.5	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Barium	344	mg/kg-dry		5	2	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Beryllium	0.9	mg/kg-dry	J	5	0.7	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Boron	11	mg/kg-dry		5	2	SW6010B	10/01/18 23:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 129	43229
Cadmium	5.0	mg/kg-dry		0.2	0.2	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Chromium	24	mg/kg-dry		5	1	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Cobalt	10	mg/kg-dry		5	2	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Copper	349	mg/kg-dry		5	4	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Iron	27200	mg/kg-dry	D	100	100	SW6010B	10/01/18 23:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 129	43229
Lead	102	mg/kg-dry		5	0.9	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Manganese	1530	mg/kg-dry		5	2	SW6010B	10/01/18 23:36 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	: 129	43229
Molybdenum	2.7	mg/kg-dry	J	5	0.4	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Nickel	15	mg/kg-dry		5	0.9	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Selenium	ND	mg/kg-dry		5	0.8	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Silver	1.0	mg/kg-dry	J	5	0.4	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Uranium	4.1	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Vanadium	45	mg/kg-dry		1	0.9	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
Zinc	865	mg/kg-dry	D	30	30	SW6020	09/27/18 19:28 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	: 60	43229
METALS, TOTAL												
Mercury	0.31	mg/kg-dry		0.20	0.067	SW7471B	10/02/18 13:59 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	: 19	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-028
Collection Date: 09/13/18 11:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	25.7	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	40	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	20.3	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	12	R138581
3050 EXTRACTABLE METALS												
Aluminum	6590	mg/kg-dry	D	10	10	SW6010B	10/01/18 23:40 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	130	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Arsenic	7	mg/kg-dry		5	0.3	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Barium	123	mg/kg-dry		5	1	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Boron	ND	mg/kg-dry		5	5	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Cadmium	1.6	mg/kg-dry		0.2	0.1	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Chromium	9	mg/kg-dry		5	0.8	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Cobalt	4	mg/kg-dry	J	5	1	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Copper	94	mg/kg-dry		5	2	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Iron	14800	mg/kg-dry	D	80	80	SW6010B	10/01/18 23:40 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	130	43229
Lead	21	mg/kg-dry		5	0.5	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Manganese	593	mg/kg-dry		5	4	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Nickel	3.7	mg/kg-dry	J	5	0.5	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Selenium	ND	mg/kg-dry		5	0.5	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Silver	0.3	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Uranium	1.4	mg/kg-dry	J	5	0.1	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Vanadium	37	mg/kg-dry		1	0.5	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
Zinc	251	mg/kg-dry	D	20	20	SW6020	09/27/18 19:30 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	61	43229
METALS, TOTAL												
Mercury	0.17	mg/kg-dry		0.10	0.0036	SW7471B	10/02/18 15:16 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	48	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-029
Collection Date: 09/13/18 11:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.4	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	52	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.5	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	13	R138581
3050 EXTRACTABLE METALS												
Aluminum	4860	mg/kg-dry	D	10	10	SW6010B	10/01/18 23:43 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	131	43229
Antimony	ND	mg/kg-dry		5	1	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Arsenic	14	mg/kg-dry		5	0.2	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Barium	247	mg/kg-dry		5	1	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Boron	ND	mg/kg-dry		5	5	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Cadmium	0.7	mg/kg-dry		0.2	0.1	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Chromium	3.5	mg/kg-dry	J	5	0.8	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Cobalt	4	mg/kg-dry	J	5	1	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Copper	76	mg/kg-dry		5	2	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Iron	6590	mg/kg-dry	D	70	70	SW6010B	10/01/18 23:43 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	131	43229
Lead	29	mg/kg-dry		5	0.5	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Manganese	1390	mg/kg-dry		5	1	SW6010B	10/01/18 23:43 / sld	09/25/18 15:25	SW3050 B	ICP2-HE_181001B	131	43229
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Nickel	2.2	mg/kg-dry	J	5	0.5	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Selenium	ND	mg/kg-dry		5	0.4	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Vanadium	16	mg/kg-dry		1	0.5	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
Zinc	176	mg/kg-dry	D	20	20	SW6020	09/27/18 19:32 / dck	09/25/18 15:25	SW3050 B	ICPMS205-H_180927B	62	43229
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0032	SW7471B	10/02/18 16:19 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	76	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-030
Collection Date: 09/13/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	58.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 58	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.8	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 14	R138581
3050 EXTRACTABLE METALS												
Aluminum	24900	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:02 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 184	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Arsenic	44	mg/kg-dry		5	0.4	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Barium	472	mg/kg-dry		5	2	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Beryllium	1.1	mg/kg-dry	J	5	0.7	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Boron	11	mg/kg-dry		5	2	SW6010B	10/02/18 03:02 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 184	43246
Cadmium	12.0	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Chromium	50	mg/kg-dry		5	1	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Cobalt	16	mg/kg-dry		5	2	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Copper	652	mg/kg-dry		5	4	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Iron	28800	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:02 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 184	43246
Lead	174	mg/kg-dry		5	0.8	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Manganese	3690	mg/kg-dry		5	2	SW6010B	10/02/18 03:02 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 184	43246
Molybdenum	6	mg/kg-dry		5	0.4	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Nickel	30	mg/kg-dry		5	0.9	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Selenium	1.2	mg/kg-dry	J	5	0.8	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Silver	1.7	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Uranium	4.2	mg/kg-dry	J	5	0.2	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Vanadium	59	mg/kg-dry		1	0.8	SW6020	09/28/18 12:39 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 37	43246
Zinc	1820	mg/kg-dry		7	7	SW6010B	10/02/18 03:02 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 184	43246
METALS, TOTAL												
Mercury	0.53	mg/kg-dry		0.15	0.052	SW7471B	10/02/18 14:01 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	: 20	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-031
Collection Date: 09/13/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.6	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 62	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	14.3	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 15	R138581
3050 EXTRACTABLE METALS												
Aluminum	4350	mg/kg-dry	D	10	10	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Arsenic	10	mg/kg-dry		5	0.3	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Barium	112	mg/kg-dry		5	1	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
Cadmium	1.2	mg/kg-dry		0.2	0.1	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Chromium	10	mg/kg-dry		5	0.8	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Cobalt	4	mg/kg-dry	J	5	1	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Copper	42	mg/kg-dry		5	4	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
Iron	14400	mg/kg-dry	D	70	70	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
Lead	24	mg/kg-dry		5	0.5	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Manganese	562	mg/kg-dry		5	1	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Nickel	3.9	mg/kg-dry	J	5	0.5	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Selenium	ND	mg/kg-dry		5	0.5	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	10/01/18 16:25 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 57	43247
Vanadium	43	mg/kg-dry		2	2	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
Zinc	174	mg/kg-dry		5	4	SW6010B	10/02/18 00:35 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 145	43247
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0031	SW7471B	10/02/18 15:18 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	: 49	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-032
Collection Date: 09/13/18 09:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 67	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.6	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 16	R138581
3050 EXTRACTABLE METALS												
Aluminum	3000	mg/kg-dry	D	9	9	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Arsenic	6	mg/kg-dry		5	0.2	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Barium	76	mg/kg-dry		5	0.9	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
Cadmium	0.4	mg/kg-dry		0.2	0.08	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Chromium	5	mg/kg-dry		5	0.6	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Cobalt	ND	mg/kg-dry		5	2	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
Copper	30	mg/kg-dry		5	2	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Iron	4470	mg/kg-dry	D	50	50	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
Lead	7	mg/kg-dry		5	0.3	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Manganese	542	mg/kg-dry		5	0.8	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Nickel	2.6	mg/kg-dry	J	5	0.4	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Uranium	0.56	mg/kg-dry	J	5	0.09	SW6020	10/03/18 14:03 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 48	43312
Vanadium	10	mg/kg-dry		1	1	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
Zinc	95	mg/kg-dry		5	3	SW6010B	10/04/18 15:46 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 36	43312
METALS, TOTAL												
Mercury	0.009	mg/kg-dry	J	0.10	0.0031	SW7471B	10/02/18 16:21 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 77	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-033
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	55.1	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	73	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	17	R138581
3050 EXTRACTABLE METALS												
Aluminum	28600	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:06 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	185	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Arsenic	50	mg/kg-dry		5	0.4	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Barium	464	mg/kg-dry		5	2	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Beryllium	1.2	mg/kg-dry	J	5	0.7	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Boron	9	mg/kg-dry		5	2	SW6010B	10/02/18 03:06 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	185	43246
Cadmium	3.8	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Chromium	63	mg/kg-dry		5	1	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Cobalt	13	mg/kg-dry		5	2	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Copper	321	mg/kg-dry		5	4	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Iron	25800	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:06 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	185	43246
Lead	228	mg/kg-dry		5	0.8	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Manganese	2940	mg/kg-dry		5	2	SW6010B	10/02/18 03:06 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	185	43246
Molybdenum	3.2	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Nickel	35	mg/kg-dry		5	0.8	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Selenium	ND	mg/kg-dry		5	0.8	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Silver	1.6	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Uranium	5	mg/kg-dry		5	0.2	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Vanadium	51	mg/kg-dry		1	0.8	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
Zinc	884	mg/kg-dry	D	30	30	SW6020	09/28/18 12:41 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	38	43246
METALS, TOTAL												
Mercury	0.79	mg/kg-dry		0.17	0.057	SW7471B	10/02/18 14:03 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	21	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-034
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	79	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	28.2	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	18	R138581
3050 EXTRACTABLE METALS												
Aluminum	5140	mg/kg-dry	D	10	10	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Arsenic	6	mg/kg-dry		5	0.3	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Barium	150	mg/kg-dry		5	1	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
Cadmium	0.2	mg/kg-dry		0.2	0.1	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Chromium	13	mg/kg-dry		5	0.8	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Cobalt	3	mg/kg-dry	J	5	1	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Copper	14	mg/kg-dry		5	4	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
Iron	6200	mg/kg-dry	D	70	70	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
Lead	13	mg/kg-dry		5	0.5	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Manganese	293	mg/kg-dry		5	1	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Nickel	8	mg/kg-dry		5	0.5	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Selenium	ND	mg/kg-dry		5	0.5	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Uranium	0.7	mg/kg-dry	J	5	0.1	SW6020	10/01/18 16:27 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	58	43247
Vanadium	12	mg/kg-dry		2	2	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
Zinc	57	mg/kg-dry		5	4	SW6010B	10/02/18 00:47 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	148	43247
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0032	SW7471B	10/02/18 15:20 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	50	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-035
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.5	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 85	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	31.1	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 19	R138581
3050 EXTRACTABLE METALS												
Aluminum	5330	mg/kg-dry	D	10	10	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Arsenic	8	mg/kg-dry		5	0.2	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Barium	167	mg/kg-dry		5	0.9	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Boron	1.0	mg/kg-dry	J	5	0.9	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
Cadmium	0.2	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Chromium	21	mg/kg-dry		5	0.6	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Cobalt	4	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
Copper	18	mg/kg-dry		5	2	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Iron	8340	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
Lead	14	mg/kg-dry		5	0.4	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Manganese	447	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Nickel	11	mg/kg-dry		5	0.4	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	10/03/18 14:07 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 50	43312
Vanadium	14	mg/kg-dry		1	1	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
Zinc	63	mg/kg-dry		5	3	SW6010B	10/04/18 16:12 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 43	43312
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0029	SW7471B	10/02/18 16:23 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 78	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Duplicate Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-036
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	53.5	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	87	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.3	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	20	R138581
3050 EXTRACTABLE METALS												
Aluminum	28200	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:09 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	186	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Arsenic	48	mg/kg-dry		5	0.4	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Barium	441	mg/kg-dry		5	2	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Beryllium	1.1	mg/kg-dry	J	5	0.6	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Boron	10	mg/kg-dry		5	2	SW6010B	10/02/18 03:09 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	186	43246
Cadmium	3.9	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Chromium	68	mg/kg-dry		5	1	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Cobalt	13	mg/kg-dry		5	2	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Copper	326	mg/kg-dry		5	3	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Iron	25700	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:09 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	186	43246
Lead	236	mg/kg-dry		5	0.8	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Manganese	2820	mg/kg-dry		5	2	SW6010B	10/02/18 03:09 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	186	43246
Molybdenum	3.6	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Nickel	37	mg/kg-dry		5	0.8	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Selenium	0.8	mg/kg-dry	J	5	0.8	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Silver	1.5	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Uranium	5	mg/kg-dry		5	0.2	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Vanadium	53	mg/kg-dry		1	0.8	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
Zinc	853	mg/kg-dry	D	30	30	SW6020	09/28/18 12:43 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	39	43246
METALS, TOTAL												
Mercury	0.72	mg/kg-dry		0.17	0.057	SW7471B	10/02/18 14:05 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	22	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Duplicate Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-037
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.3	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 89	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	31.8	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 21	R138581
3050 EXTRACTABLE METALS												
Aluminum	5520	mg/kg-dry	D	10	10	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Arsenic	4.7	mg/kg-dry	J	5	0.3	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Barium	180	mg/kg-dry		5	1	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
Cadmium	0.4	mg/kg-dry		0.2	0.1	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Chromium	13	mg/kg-dry		5	0.8	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Cobalt	3	mg/kg-dry	J	5	1	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Copper	13	mg/kg-dry		5	4	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
Iron	6860	mg/kg-dry	D	70	70	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
Lead	14	mg/kg-dry		5	0.5	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Manganese	309	mg/kg-dry		5	1	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Nickel	8	mg/kg-dry		5	0.5	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Selenium	ND	mg/kg-dry		5	0.5	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Uranium	1.6	mg/kg-dry	J	5	0.1	SW6020	10/01/18 16:29 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 59	43247
Vanadium	14	mg/kg-dry		2	2	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
Zinc	61	mg/kg-dry		5	4	SW6010B	10/02/18 00:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 149	43247
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0032	SW7471B	10/02/18 15:22 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	: 51	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Duplicate Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-038
Collection Date: 09/13/18 08:45
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.7	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 93	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	32.4	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 22	R138581
3050 EXTRACTABLE METALS												
Aluminum	5100	mg/kg-dry	D	9	9	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Arsenic	6	mg/kg-dry		5	0.2	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Barium	153	mg/kg-dry		5	0.9	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
Cadmium	0.3	mg/kg-dry		0.2	0.08	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Chromium	18	mg/kg-dry		5	0.6	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Cobalt	3	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
Copper	11	mg/kg-dry		5	1	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Iron	7660	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
Lead	10	mg/kg-dry		5	0.3	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Manganese	347	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Nickel	10	mg/kg-dry		5	0.4	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Uranium	0.79	mg/kg-dry	J	5	0.09	SW6020	10/03/18 14:09 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 51	43312
Vanadium	14	mg/kg-dry		1	1	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
Zinc	54	mg/kg-dry		5	3	SW6010B	10/04/18 16:16 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 44	43312
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0033	SW7471B	10/02/18 16:25 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 79	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-039
Collection Date: 09/12/18 17:05
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	57.2	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	95	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.9	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	23	R138581
3050 EXTRACTABLE METALS												
Aluminum	32400	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:13 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	187	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Arsenic	40	mg/kg-dry		5	0.4	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Barium	645	mg/kg-dry		5	2	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Beryllium	1.5	mg/kg-dry	J	5	0.7	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Boron	12	mg/kg-dry		5	2	SW6010B	10/02/18 03:13 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	187	43246
Cadmium	5.8	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Chromium	58	mg/kg-dry		5	1	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Cobalt	16	mg/kg-dry		5	2	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Copper	399	mg/kg-dry		5	4	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Iron	29000	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:13 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	187	43246
Lead	150	mg/kg-dry		5	0.8	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Manganese	3870	mg/kg-dry		5	2	SW6010B	10/02/18 03:13 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	187	43246
Molybdenum	3.6	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Nickel	31	mg/kg-dry		5	0.9	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Selenium	1.0	mg/kg-dry	J	5	0.8	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Silver	1.5	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Uranium	3.9	mg/kg-dry	J	5	0.2	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Vanadium	59	mg/kg-dry		1	0.9	SW6020	09/28/18 12:45 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	40	43246
Zinc	1340	mg/kg-dry		7	7	SW6010B	10/02/18 03:13 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	187	43246
METALS, TOTAL												
Mercury	0.59	mg/kg-dry		0.18	0.060	SW7471B	10/02/18 14:11 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	25	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-040
Collection Date: 09/12/18 17:05
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.3	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	98	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	36.1	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	24	R138581
3050 EXTRACTABLE METALS												
Aluminum	5010	mg/kg-dry	D	10	10	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Arsenic	6	mg/kg-dry		5	0.3	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Barium	136	mg/kg-dry		5	1	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
Cadmium	0.7	mg/kg-dry		0.2	0.1	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Chromium	10	mg/kg-dry		5	0.8	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Cobalt	3	mg/kg-dry	J	5	1	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Copper	20	mg/kg-dry		5	4	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
Iron	6500	mg/kg-dry	D	70	70	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
Lead	11	mg/kg-dry		5	0.5	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Manganese	419	mg/kg-dry		5	1	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Nickel	6	mg/kg-dry		5	0.5	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Selenium	ND	mg/kg-dry		5	0.5	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Uranium	0.7	mg/kg-dry	J	5	0.1	SW6020	10/01/18 16:31 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	60	43247
Vanadium	14	mg/kg-dry		2	2	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
Zinc	101	mg/kg-dry		5	4	SW6010B	10/02/18 00:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	150	43247
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0034	SW7471B	10/02/18 15:28 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	54	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-041
Collection Date: 09/12/18 17:05
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			YING OVEN 2_181003A	100	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	29.6	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	25	R138581
3050 EXTRACTABLE METALS												
Aluminum	4780	mg/kg-dry	D	10	10	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Arsenic	4.5	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Barium	140	mg/kg-dry		5	0.9	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
Cadmium	0.3	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Chromium	12	mg/kg-dry		5	0.6	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Cobalt	3	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
Copper	13	mg/kg-dry		5	2	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Iron	6090	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
Lead	9	mg/kg-dry		5	0.4	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Manganese	484	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Nickel	7	mg/kg-dry		5	0.4	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Uranium	0.6	mg/kg-dry	J	5	0.1	SW6020	10/03/18 14:28 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	61	43312
Vanadium	11	mg/kg-dry		1	1	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
Zinc	71	mg/kg-dry		5	3	SW6010B	10/04/18 16:20 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	45	43312
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0033	SW7471B	10/02/18 16:31 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	82	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-042
Collection Date: 09/12/18 16:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	62.1	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			YING OVEN 2_181003A	102	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.9	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	26	R138581
3050 EXTRACTABLE METALS												
Aluminum	33300	mg/kg-dry	D	30	30	SW6010B	10/02/18 03:17 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	188	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Arsenic	35	mg/kg-dry		5	0.5	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Barium	579	mg/kg-dry		5	2	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Beryllium	1.5	mg/kg-dry	J	5	0.8	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Boron	16	mg/kg-dry		5	3	SW6010B	10/02/18 03:17 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	188	43246
Cadmium	5.0	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Chromium	54	mg/kg-dry		5	2	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Cobalt	16	mg/kg-dry		5	3	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Copper	412	mg/kg-dry		5	4	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Iron	33800	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:17 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	188	43246
Lead	134	mg/kg-dry		5	1	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Manganese	4070	mg/kg-dry		5	2	SW6010B	10/02/18 03:17 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	188	43246
Molybdenum	3.1	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Nickel	33	mg/kg-dry		5	1	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Selenium	1.0	mg/kg-dry	J	5	0.9	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Silver	1.3	mg/kg-dry	J	5	0.5	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Uranium	3.3	mg/kg-dry	J	5	0.3	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Vanadium	65	mg/kg-dry		1	1	SW6020	09/28/18 12:47 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	41	43246
Zinc	1400	mg/kg-dry		8	8	SW6010B	10/02/18 03:17 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	188	43246
METALS, TOTAL												
Mercury	0.41	mg/kg-dry		0.19	0.064	SW7471B	10/02/18 14:13 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	26	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-043
Collection Date: 09/12/18 16:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			YING OVEN 2_181003A	104	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	29.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	27	R138581
3050 EXTRACTABLE METALS												
Aluminum	4210	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Arsenic	7	mg/kg-dry		5	0.2	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Barium	117	mg/kg-dry		5	1	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Chromium	10	mg/kg-dry		5	0.8	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Cobalt	3	mg/kg-dry	J	5	1	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Copper	30	mg/kg-dry		5	3	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
Iron	12100	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
Lead	11	mg/kg-dry		5	0.5	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Manganese	407	mg/kg-dry		5	1	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Nickel	4.3	mg/kg-dry	J	5	0.5	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	10/01/18 16:52 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	71	43247
Vanadium	35	mg/kg-dry		2	2	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
Zinc	106	mg/kg-dry		5	4	SW6010B	10/02/18 01:13 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	155	43247
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0031	SW7471B	10/02/18 15:30 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	55	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-044
Collection Date: 09/12/18 16:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.8	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 96	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	32.8	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 28	R138581
3050 EXTRACTABLE METALS												
Aluminum	4150	mg/kg-dry	D	9	9	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Arsenic	6	mg/kg-dry		5	0.2	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Barium	140	mg/kg-dry		5	0.9	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
Cadmium	0.4	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Chromium	9	mg/kg-dry		5	0.6	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Cobalt	4	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
Copper	16	mg/kg-dry		5	2	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Iron	6090	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
Lead	7	mg/kg-dry		5	0.4	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Manganese	654	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Nickel	5	mg/kg-dry		5	0.4	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Uranium	1.3	mg/kg-dry	J	5	0.09	SW6020	10/03/18 14:35 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 62	43312
Vanadium	14	mg/kg-dry		1	1	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
Zinc	103	mg/kg-dry		5	3	SW6010B	10/04/18 16:23 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 46	43312
METALS, TOTAL												
Mercury	0.009	mg/kg-dry	J	0.10	0.0029	SW7471B	10/02/18 16:33 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 83	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-045
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	56.9	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	34	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	5.4	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	29	R138581
3050 EXTRACTABLE METALS												
Aluminum	35400	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:28 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	191	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Arsenic	34	mg/kg-dry		5	0.5	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Barium	491	mg/kg-dry		5	2	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Beryllium	1.7	mg/kg-dry	J	5	0.7	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Boron	15	mg/kg-dry		5	2	SW6010B	10/02/18 03:28 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	191	43246
Cadmium	3.9	mg/kg-dry		0.2	0.2	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Chromium	31	mg/kg-dry		5	1	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Cobalt	14	mg/kg-dry		5	2	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Copper	333	mg/kg-dry		5	4	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Iron	32100	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:28 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	191	43246
Lead	114	mg/kg-dry		5	0.9	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Manganese	2090	mg/kg-dry		5	2	SW6010B	10/02/18 03:28 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	191	43246
Molybdenum	1.5	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Nickel	20	mg/kg-dry		5	0.9	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Selenium	ND	mg/kg-dry		5	0.8	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Silver	1.2	mg/kg-dry	J	5	0.4	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Uranium	2.4	mg/kg-dry	J	5	0.2	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Vanadium	57	mg/kg-dry		1	0.9	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
Zinc	928	mg/kg-dry	D	30	30	SW6020	09/28/18 12:57 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	46	43246
METALS, TOTAL												
Mercury	0.33	mg/kg-dry		0.18	0.060	SW7471B	10/02/18 14:15 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	27	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-046
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.3	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	41	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	34.7	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	30	R138581
3050 EXTRACTABLE METALS												
Aluminum	3880	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Arsenic	26	mg/kg-dry		5	0.2	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Barium	95	mg/kg-dry		5	1	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
Cadmium	6.2	mg/kg-dry		0.2	0.1	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Chromium	10	mg/kg-dry		5	0.7	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Cobalt	4	mg/kg-dry	J	5	1	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Copper	132	mg/kg-dry		5	3	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
Iron	17300	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
Lead	377	mg/kg-dry		5	0.4	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Manganese	568	mg/kg-dry		5	1	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
Molybdenum	0.9	mg/kg-dry	J	5	0.2	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Nickel	3.8	mg/kg-dry	J	5	0.5	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Silver	1.8	mg/kg-dry	J	5	0.2	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Uranium	1.7	mg/kg-dry	J	5	0.1	SW6020	10/01/18 16:54 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	72	43247
Vanadium	45	mg/kg-dry		2	2	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
Zinc	1240	mg/kg-dry		5	4	SW6010B	10/02/18 01:17 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	156	43247
METALS, TOTAL												
Mercury	0.20	mg/kg-dry		0.10	0.0030	SW7471B	10/02/18 15:32 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	56	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-047
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 53	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	26.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 31	R138581
3050 EXTRACTABLE METALS												
Aluminum	2750	mg/kg-dry	D	9	9	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
Antimony	3.1	mg/kg-dry	J	5	0.8	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Arsenic	45	mg/kg-dry		5	0.2	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Barium	66	mg/kg-dry		5	0.9	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
Cadmium	0.5	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Chromium	5.0	mg/kg-dry	J	5	0.6	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Cobalt	4	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
Copper	233	mg/kg-dry		5	2	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Iron	12200	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
Lead	39	mg/kg-dry		5	0.3	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Manganese	437	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
Molybdenum	2.2	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Nickel	4.2	mg/kg-dry	J	5	0.4	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Silver	0.6	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Uranium	1.9	mg/kg-dry	J	5	0.09	SW6020	10/03/18 14:37 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 63	43312
Vanadium	13	mg/kg-dry		1	1	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
Zinc	416	mg/kg-dry		5	3	SW6010B	10/04/18 16:27 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 47	43312
METALS, TOTAL												
Mercury	0.08	mg/kg-dry	J	0.10	0.0027	SW7471B	10/02/18 16:35 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 84	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-048
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	51.2	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 28	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.9	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 32	R138581
3050 EXTRACTABLE METALS												
Aluminum	34000	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:46 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 196	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Arsenic	27	mg/kg-dry		5	0.4	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Barium	546	mg/kg-dry		5	2	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Beryllium	1.5	mg/kg-dry	J	5	0.6	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Boron	14	mg/kg-dry		5	2	SW6010B	10/02/18 03:46 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 196	43246
Cadmium	3.3	mg/kg-dry		0.2	0.2	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Chromium	27	mg/kg-dry		5	1	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Cobalt	11	mg/kg-dry		5	2	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Copper	323	mg/kg-dry		5	3	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Iron	29200	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:46 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 196	43246
Lead	98	mg/kg-dry		5	0.8	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Manganese	1590	mg/kg-dry		5	2	SW6010B	10/02/18 03:46 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 196	43246
Molybdenum	1.4	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Nickel	18	mg/kg-dry		5	0.8	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Selenium	ND	mg/kg-dry		5	0.7	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Silver	1.1	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Uranium	2.5	mg/kg-dry	J	5	0.2	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Vanadium	51	mg/kg-dry		1	0.8	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
Zinc	815	mg/kg-dry	D	30	30	SW6020	09/28/18 13:01 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 48	43246
METALS, TOTAL												
Mercury	0.31	mg/kg-dry		0.16	0.054	SW7471B	10/02/18 14:17 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	: 28	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-049
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.5	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	35	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	25.7	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	33	R138581
3050 EXTRACTABLE METALS												
Aluminum	4610	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
Antimony	1	mg/kg-dry	J	5	1	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Arsenic	30	mg/kg-dry		5	0.2	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Barium	95	mg/kg-dry		5	1	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
Cadmium	2.0	mg/kg-dry		0.2	0.1	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Chromium	17	mg/kg-dry		5	0.7	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Cobalt	4	mg/kg-dry	J	5	1	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Copper	153	mg/kg-dry		5	3	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
Iron	27900	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
Lead	68	mg/kg-dry		5	0.4	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Manganese	449	mg/kg-dry		5	1	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
Molybdenum	1.2	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Nickel	4.6	mg/kg-dry	J	5	0.5	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Silver	3.2	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Uranium	11	mg/kg-dry		5	0.1	SW6020	10/01/18 17:11 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	81	43247
Vanadium	80	mg/kg-dry		2	2	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
Zinc	633	mg/kg-dry		5	4	SW6010B	10/02/18 01:43 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	163	43247
METALS, TOTAL												
Mercury	0.26	mg/kg-dry		0.10	0.0031	SW7471B	10/02/18 15:34 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	57	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Duplicate Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-050
Collection Date: 09/12/18 15:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.7	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 42	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	27.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 34	R138581
3050 EXTRACTABLE METALS												
Aluminum	2800	mg/kg-dry	D	10	10	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
Antimony	1.6	mg/kg-dry	J	5	0.8	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Arsenic	32	mg/kg-dry		5	0.2	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Barium	78	mg/kg-dry		5	0.9	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
Cadmium	2.7	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Chromium	4.4	mg/kg-dry	J	5	0.6	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Cobalt	ND	mg/kg-dry		5	2	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
Copper	220	mg/kg-dry		5	2	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Iron	8250	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
Lead	77	mg/kg-dry		5	0.4	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Manganese	2070	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
Molybdenum	1.8	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Nickel	2.5	mg/kg-dry	J	5	0.4	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Silver	1.2	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Uranium	2.3	mg/kg-dry	J	5	0.1	SW6020	10/03/18 14:39 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 64	43312
Vanadium	15	mg/kg-dry		1	1	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
Zinc	348	mg/kg-dry		5	3	SW6010B	10/04/18 16:31 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 48	43312
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.0029	SW7471B	10/02/18 16:37 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 85	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-051
Collection Date: 09/12/18 13:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	58.4	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	48	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.4	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	35	R138581
3050 EXTRACTABLE METALS												
Aluminum	29100	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:50 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	197	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Arsenic	83	mg/kg-dry		5	0.5	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Barium	545	mg/kg-dry		5	2	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Beryllium	1.3	mg/kg-dry	J	5	0.7	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Boron	11	mg/kg-dry		5	2	SW6010B	10/02/18 03:50 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	197	43246
Cadmium	6.3	mg/kg-dry		0.2	0.2	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Chromium	66	mg/kg-dry		5	2	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Cobalt	11	mg/kg-dry		5	2	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Copper	576	mg/kg-dry		5	4	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Iron	29200	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:50 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	197	43246
Lead	253	mg/kg-dry		5	0.9	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Manganese	2010	mg/kg-dry		5	2	SW6010B	10/02/18 03:50 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	197	43246
Molybdenum	3.5	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Nickel	39	mg/kg-dry		5	0.9	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Selenium	1.6	mg/kg-dry	J	5	0.9	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Silver	2.3	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Uranium	3.0	mg/kg-dry	J	5	0.2	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Vanadium	54	mg/kg-dry		1	0.9	SW6020	09/28/18 13:03 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	49	43246
Zinc	1290	mg/kg-dry		8	8	SW6010B	10/02/18 03:50 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	197	43246
METALS, TOTAL												
Mercury	0.82	mg/kg-dry		0.17	0.056	SW7471B	10/02/18 14:24 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	32	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-052
Collection Date: 09/12/18 13:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.4	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	54	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	34.9	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	36	R138581
3050 EXTRACTABLE METALS												
Aluminum	7040	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Arsenic	36	mg/kg-dry		5	0.2	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Barium	118	mg/kg-dry		5	1	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Chromium	10	mg/kg-dry		5	0.7	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Cobalt	4	mg/kg-dry	J	5	1	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Copper	39	mg/kg-dry		5	3	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
Iron	10400	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
Lead	36	mg/kg-dry		5	0.4	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Manganese	309	mg/kg-dry		5	1	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Nickel	7	mg/kg-dry		5	0.5	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Silver	0.4	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	10/01/18 17:13 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	82	43247
Vanadium	25	mg/kg-dry		2	2	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
Zinc	150	mg/kg-dry		5	4	SW6010B	10/02/18 01:46 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	164	43247
METALS, TOTAL												
Mercury	0.09	mg/kg-dry	J	0.10	0.0030	SW7471B	10/02/18 15:42 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	61	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-053
Collection Date: 09/12/18 13:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.1	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 29	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	45.6	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 37	R138581
3050 EXTRACTABLE METALS												
Aluminum	8070	mg/kg-dry	D	9	9	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Arsenic	17	mg/kg-dry		5	0.2	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Barium	134	mg/kg-dry		5	0.8	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
Cadmium	0.19	mg/kg-dry	J	0.2	0.08	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Chromium	15	mg/kg-dry		5	0.6	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Cobalt	3	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
Copper	39	mg/kg-dry		5	1	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Iron	11300	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
Lead	20	mg/kg-dry		5	0.3	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Manganese	274	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Nickel	9	mg/kg-dry		5	0.3	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Uranium	1.3	mg/kg-dry	J	5	0.09	SW6020	10/03/18 14:41 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 65	43312
Vanadium	21	mg/kg-dry		1	1	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
Zinc	125	mg/kg-dry		5	3	SW6010B	10/04/18 16:35 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 49	43312
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0028	SW7471B	10/02/18 16:45 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 89	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-054
Collection Date: 09/12/18 11:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.3	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	36	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	11.4	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	38	R138581
3050 EXTRACTABLE METALS												
Aluminum	41900	mg/kg-dry	D	20	20	SW6010B	10/02/18 03:54 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	198	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Arsenic	44	mg/kg-dry		5	0.4	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Barium	487	mg/kg-dry		5	2	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Beryllium	1.6	mg/kg-dry	J	5	0.7	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Boron	10	mg/kg-dry		5	2	SW6010B	10/02/18 03:54 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	198	43246
Cadmium	4.2	mg/kg-dry		0.2	0.2	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Chromium	47	mg/kg-dry		5	1	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Cobalt	18	mg/kg-dry		5	2	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Copper	692	mg/kg-dry		5	4	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Iron	44900	mg/kg-dry	D	100	100	SW6010B	10/02/18 03:54 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	198	43246
Lead	147	mg/kg-dry		5	0.8	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Manganese	1520	mg/kg-dry		5	2	SW6010B	10/02/18 03:54 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	198	43246
Molybdenum	1.8	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Nickel	28	mg/kg-dry		5	0.9	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Selenium	ND	mg/kg-dry		5	0.8	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Silver	2.0	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Uranium	4.4	mg/kg-dry	J	5	0.2	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Vanadium	116	mg/kg-dry		1	0.8	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
Zinc	1090	mg/kg-dry	D	30	30	SW6020	09/28/18 13:05 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	50	43246
METALS, TOTAL												
Mercury	1.1	mg/kg-dry		0.15	0.050	SW7471B	10/02/18 14:26 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	33	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-055
Collection Date: 09/12/18 11:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.6	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	68	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	52.3	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	39	R138581
3050 EXTRACTABLE METALS												
Aluminum	4730	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Arsenic	16	mg/kg-dry		5	0.2	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Barium	98	mg/kg-dry		5	1	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Chromium	18	mg/kg-dry		5	0.8	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Cobalt	4	mg/kg-dry	J	5	1	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Copper	81	mg/kg-dry		5	4	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
Iron	26200	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
Lead	30	mg/kg-dry		5	0.5	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Manganese	387	mg/kg-dry		5	1	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Nickel	5	mg/kg-dry		5	0.5	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Selenium	ND	mg/kg-dry		5	0.5	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Silver	0.4	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Uranium	1.8	mg/kg-dry	J	5	0.1	SW6020	10/01/18 17:15 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	83	43247
Vanadium	83	mg/kg-dry		2	2	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
Zinc	216	mg/kg-dry		5	4	SW6010B	10/02/18 01:50 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	165	43247
METALS, TOTAL												
Mercury	0.16	mg/kg-dry		0.10	0.0030	SW7471B	10/02/18 15:44 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	62	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-056
Collection Date: 09/12/18 11:00
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.1	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 74	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	15.4	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 40	R138581
3050 EXTRACTABLE METALS												
Aluminum	4320	mg/kg-dry	D	10	10	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
Antimony	ND	mg/kg-dry		5	0.8	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Arsenic	18	mg/kg-dry		5	0.2	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Barium	76	mg/kg-dry		5	0.9	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Boron	ND	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
Cadmium	0.4	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Chromium	6	mg/kg-dry		5	0.6	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Cobalt	3	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
Copper	81	mg/kg-dry		5	2	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Iron	8550	mg/kg-dry	D	50	50	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
Lead	25	mg/kg-dry		5	0.4	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Manganese	276	mg/kg-dry		5	0.8	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Nickel	4.0	mg/kg-dry	J	5	0.4	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Selenium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	10/03/18 14:43 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 66	43312
Vanadium	17	mg/kg-dry		1	1	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
Zinc	166	mg/kg-dry		5	3	SW6010B	10/04/18 16:38 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 50	43312
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0032	SW7471B	10/02/18 16:47 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 90	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-057
Collection Date: 09/12/18 10:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	57.3	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 59	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	7.6	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 41	R138581
3050 EXTRACTABLE METALS												
Aluminum	30500	mg/kg-dry	D	20	20	SW6010B	10/02/18 04:20 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 205	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Arsenic	46	mg/kg-dry		5	0.5	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Barium	429	mg/kg-dry		5	2	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Beryllium	1.3	mg/kg-dry	J	5	0.7	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Boron	12	mg/kg-dry		5	2	SW6010B	10/02/18 04:20 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 205	43246
Cadmium	10.0	mg/kg-dry		0.2	0.2	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Chromium	47	mg/kg-dry		5	1	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Cobalt	14	mg/kg-dry		5	2	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Copper	477	mg/kg-dry		5	4	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Iron	38900	mg/kg-dry	D	100	100	SW6010B	10/02/18 04:20 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 205	43246
Lead	143	mg/kg-dry		5	0.9	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Manganese	1330	mg/kg-dry		5	2	SW6010B	10/02/18 04:20 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 205	43246
Molybdenum	2.4	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Nickel	23	mg/kg-dry		5	0.9	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Selenium	0.9	mg/kg-dry	J	5	0.8	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Silver	2.3	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Uranium	4.7	mg/kg-dry	J	5	0.2	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Vanadium	88	mg/kg-dry		1	0.9	SW6020	09/28/18 13:09 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	: 52	43246
Zinc	1540	mg/kg-dry		7	7	SW6010B	10/02/18 04:20 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	: 205	43246
METALS, TOTAL												
Mercury	0.78	mg/kg-dry		0.15	0.049	SW7471B	10/02/18 14:28 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	: 34	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-058
Collection Date: 09/12/18 10:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.9	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 63	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	53.5	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 42	R138581
3050 EXTRACTABLE METALS												
Aluminum	4840	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Arsenic	14	mg/kg-dry		5	0.2	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Barium	104	mg/kg-dry		5	1	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
Cadmium	0.8	mg/kg-dry		0.2	0.1	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Chromium	19	mg/kg-dry		5	0.8	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Cobalt	4	mg/kg-dry	J	5	1	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Copper	56	mg/kg-dry		5	4	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
Iron	25500	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
Lead	25	mg/kg-dry		5	0.5	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Manganese	240	mg/kg-dry		5	1	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Nickel	6	mg/kg-dry		5	0.5	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Selenium	ND	mg/kg-dry		5	0.5	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Uranium	2.1	mg/kg-dry	J	5	0.1	SW6020	10/01/18 17:17 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	: 84	43247
Vanadium	79	mg/kg-dry		2	2	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
Zinc	247	mg/kg-dry		5	4	SW6010B	10/02/18 01:54 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	: 166	43247
METALS, TOTAL												
Mercury	0.11	mg/kg-dry		0.10	0.0033	SW7471B	10/02/18 15:46 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	: 63	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-059
Collection Date: 09/12/18 10:15
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.0	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 69	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	13.4	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 43	R138581
3050 EXTRACTABLE METALS												
Aluminum	3060	mg/kg-dry	D	10	10	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
Antimony	ND	mg/kg-dry		5	0.9	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Arsenic	8	mg/kg-dry		5	0.2	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Barium	86	mg/kg-dry		5	0.9	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Boron	ND	mg/kg-dry		5	1	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
Cadmium	0.6	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Chromium	6	mg/kg-dry		5	0.6	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Cobalt	4	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
Copper	57	mg/kg-dry		5	2	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Iron	6830	mg/kg-dry	D	60	60	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
Lead	21	mg/kg-dry		5	0.4	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Manganese	363	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Nickel	3.9	mg/kg-dry	J	5	0.4	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Silver	ND	mg/kg-dry		5	0.2	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	10/03/18 14:45 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 67	43312
Vanadium	16	mg/kg-dry		1	1	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
Zinc	90	mg/kg-dry		5	3	SW6010B	10/04/18 16:50 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 53	43312
METALS, TOTAL												
Mercury	0.12	mg/kg-dry		0.10	0.0034	SW7471B	10/02/18 16:49 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 91	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-060
Collection Date: 09/12/18 08:40
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	61.5	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	75	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Passed	0.5	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	44	R138581
3050 EXTRACTABLE METALS												
Aluminum	26300	mg/kg-dry	D	30	30	SW6010B	10/02/18 04:23 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	206	43246
Antimony	ND	mg/kg-dry		5	2	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Arsenic	64	mg/kg-dry		5	0.5	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Barium	362	mg/kg-dry		5	2	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Beryllium	1.0	mg/kg-dry	J	5	0.8	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Boron	7	mg/kg-dry		5	2	SW6010B	10/02/18 04:23 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	206	43246
Cadmium	70.2	mg/kg-dry		0.2	0.2	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Chromium	116	mg/kg-dry		5	2	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Cobalt	15	mg/kg-dry		5	2	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Copper	677	mg/kg-dry		5	4	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Iron	49100	mg/kg-dry	D	100	100	SW6010B	10/02/18 04:23 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	206	43246
Lead	280	mg/kg-dry		5	1	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Manganese	2950	mg/kg-dry		5	2	SW6010B	10/02/18 04:23 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	206	43246
Molybdenum	7	mg/kg-dry		5	0.4	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Nickel	60	mg/kg-dry		5	1	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Selenium	1.6	mg/kg-dry	J	5	0.9	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Silver	3.5	mg/kg-dry	J	5	0.4	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Uranium	8	mg/kg-dry		5	0.3	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Vanadium	156	mg/kg-dry		1	1	SW6020	09/28/18 13:11 / dck	09/26/18 14:39	SW3050 B	ICPMS205-H_180928B	53	43246
Zinc	1510	mg/kg-dry		8	8	SW6010B	10/02/18 04:23 / sld	09/26/18 14:39	SW3050 B	ICP2-HE_181001B	206	43246
METALS, TOTAL												
Mercury	0.90	mg/kg-dry		0.18	0.059	SW7471B	10/02/18 14:31 / dck	10/01/18 14:22	SW7471B	HGCV201-H_181002A	35	43242

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-061
Collection Date: 09/12/18 08:40
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.2	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	81	R138735
SIEVE ANALYSIS												
No. 230 (63 um), Retained	67.8	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	45	R138581
3050 EXTRACTABLE METALS												
Aluminum	2750	mg/kg-dry	D	10	10	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
Antimony	ND	mg/kg-dry		5	1	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Arsenic	14	mg/kg-dry		5	0.2	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Barium	65	mg/kg-dry		5	1	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Boron	ND	mg/kg-dry		5	1	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
Cadmium	3.6	mg/kg-dry		0.2	0.1	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Chromium	14	mg/kg-dry		5	0.7	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Cobalt	3	mg/kg-dry	J	5	1	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Copper	52	mg/kg-dry		5	3	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
Iron	19800	mg/kg-dry	D	70	70	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
Lead	29	mg/kg-dry		5	0.4	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Manganese	305	mg/kg-dry		5	1	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
Molybdenum	0.8	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Nickel	4.1	mg/kg-dry	J	5	0.5	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Uranium	3.9	mg/kg-dry	J	5	0.1	SW6020	10/01/18 17:19 / sld	09/26/18 15:16	SW3050 B	ICPMS205-H_181001A	85	43247
Vanadium	61	mg/kg-dry		2	2	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
Zinc	208	mg/kg-dry		5	4	SW6010B	10/02/18 01:58 / sld	09/26/18 15:16	SW3050 B	ICP2-HE_181001B	167	43247
METALS, TOTAL												
Mercury	0.06	mg/kg-dry	J	0.10	0.0027	SW7471B	10/02/18 15:48 / dck	10/01/18 14:35	SW7471B	HGCV201-H_181002A	64	43244

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sediment Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18090303-062
Collection Date: 09/12/18 08:40
DateReceived: 09/14/18
Report Date: 10/05/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.7	wt%		0.2	0.02	D2974	10/04/18 09:45 / ber			RYING OVEN 2_181003A	: 12	R138735
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.0	wt%-wet		0.1		SSSA 15-2	09/28/18 08:36 / swj			MISC SOILS_180928A	: 46	R138581
3050 EXTRACTABLE METALS												
Aluminum	2390	mg/kg-dry	D	10	10	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
Antimony	ND	mg/kg-dry		5	0.9	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Arsenic	8	mg/kg-dry		5	0.2	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Barium	41	mg/kg-dry		5	1	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Boron	ND	mg/kg-dry		5	1	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
Cadmium	2.4	mg/kg-dry		0.2	0.09	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Chromium	5	mg/kg-dry		5	0.6	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Cobalt	3	mg/kg-dry	J	5	2	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
Copper	43	mg/kg-dry		5	2	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Iron	4900	mg/kg-dry	D	60	60	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
Lead	18	mg/kg-dry		5	0.4	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Manganese	222	mg/kg-dry		5	0.9	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Nickel	2.9	mg/kg-dry	J	5	0.4	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Selenium	ND	mg/kg-dry		5	0.4	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Silver	0.4	mg/kg-dry	J	5	0.2	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	10/03/18 14:46 / sld	10/02/18 09:00	SW3050 B	ICPMS205-H_181003B	: 68	43312
Vanadium	13	mg/kg-dry		1	1	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
Zinc	102	mg/kg-dry		5	3	SW6010B	10/04/18 16:53 / sld	10/02/18 09:00	SW3050 B	ICP2-HE_181004B	: 54	43312
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0029	SW7471B	10/02/18 16:51 / dck	10/01/18 14:38	SW7471B	HGCV201-H_181002A	: 92	43245

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 180921wa-hg202

Run ID :Run Order: **HGCV202-H_180921A: 35** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/21/18 12:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000100	0.00010	0.0001	0	100	90	110				

Associated samples: **H18090303-001B, H18090303-001C, H18090303-002B, H18090303-002C, H18090303-003B, H18090303-003C, H18090303-004B, H18090303-005B, H18090303-005C, H18090303-006B, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009B, H18090303-009C, H18090303-010B, H18090303-010C, H18090303-011B, H18090303-011C, H18090303-012B, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014B, H18090303-014C, H18090303-015B, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017B, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 49** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/21/18 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000104	0.00010	0.0001	0	104	90	110				

Associated samples: **H18090303-001B, H18090303-001C, H18090303-002B, H18090303-002C, H18090303-003B, H18090303-003C, H18090303-004B, H18090303-005B, H18090303-005C, H18090303-006B, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009B, H18090303-009C, H18090303-010B, H18090303-010C, H18090303-011B, H18090303-011C, H18090303-012B, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014B, H18090303-014C, H18090303-015B, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017B, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 62** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/21/18 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	106	90	110				

Associated samples: **H18090303-001B, H18090303-001C, H18090303-002B, H18090303-002C, H18090303-003B, H18090303-003C, H18090303-004B, H18090303-005B, H18090303-005C, H18090303-006B, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009B, H18090303-009C, H18090303-010B, H18090303-010C, H18090303-011B, H18090303-011C, H18090303-012B, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014B, H18090303-014C, H18090303-015B, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017B, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 76** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **09/21/18 14:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	106	90	110				

Associated samples: **H18090303-001B, H18090303-001C, H18090303-002B, H18090303-002C, H18090303-003B, H18090303-003C, H18090303-004B, H18090303-005B, H18090303-005C, H18090303-006B, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009B, H18090303-009C, H18090303-010B, H18090303-010C, H18090303-011B, H18090303-011C, H18090303-012B, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014B, H18090303-014C, H18090303-015B, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017B, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 181002sa-hg201

Run ID :Run Order: **HGCV201-H_181002A: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 14:07** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 36** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 14:32** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 52** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 15:24** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	100	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 65** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 15:50** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 181002sa-hg201

Run ID :Run Order: **HGCV201-H_181002A: 65** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 15:50** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 80** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 16:27** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**101**	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 42837

Run ID :Run Order: **FIA202-HE_180918B: 9** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **09/18/18 14:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.00136	0.010		0		0	0				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180918B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **09/18/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: **8/7/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.247	0.010	0.25	0	99	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180918B: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **09/18/18 16:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0941	0.010	0.1	0	94	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180918B: 86** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **09/18/18 16:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0906	0.010	0.1	0	91	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180919A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **09/19/18 16:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000220	0.010		0		0	0				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 42837

Run ID :Run Order: **FIA202-HE_180919A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **09/19/18 16:05** Units: **mg/L** **Prep Info:** Prep Date: **8/7/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.262	0.010	0.25	0	105	90	110				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA202-HE_180919A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/19/18 16:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0984	0.010	0.1	0	98	90	110				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA202-HE_180919A: 41** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **09/19/18 16:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0944	0.010	0.1	0	94	90	110				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43087

Run ID :Run Order: **FIA203-HE_180918B: 8** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **09/18/18 13:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.00139	0.10		0		0	0				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **FIA203-HE_180918B: 25** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/18/18 14:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.492	0.10	0.5	0	98	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **FIA203-HE_180918B: 39** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **09/18/18 14:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.493	0.10	0.5	0	99	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180918A: 28** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.7**

Analysis Date: **09/18/18 12:44** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									
Magnesium	ND	0.009									
Potassium	ND	0.06									
Sodium	0.04	0.03									

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180918A: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.7**

Analysis Date: **09/18/18 12:48** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.507	0.050	0.5	0	**101**	85	115				
Calcium	25.8	1.0	25	0	**103**	85	115				
Magnesium	26.2	1.0	25	0	**105**	85	115				
Potassium	25.9	1.0	25	0	**103**	85	115				
Sodium	25.5	1.0	25	0.03848	**102**	85	115				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180918A: 37** SampType: **Serial Dilution** Lab ID: **H18090302-001CDIL** Method: **E200.7**

Analysis Date: **09/18/18 13:18** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0.0237		10	
Calcium	34.7	1.0		0		0	0	35.32	**1.8**	10	
Magnesium	8.68	1.0		0		0	0	8.745	**0.7**	10	
Potassium	2.59	1.0		0		0	0	2.808		10	N
Sodium	11.6	1.0		0		0	0	11.81	**2.3**	10	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180918A: 38** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-001CPDS** Method: **E200.7**

Analysis Date: **09/18/18 13:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1.03	0.0237	96	70	130				
Calcium	86.6	1.0	51.5	35.32	100	70	130				
Magnesium	62.3	1.0	51.5	8.745	104	70	130				
Potassium	57.0	1.0	51.5	2.808	105	70	130				
Sodium	65.5	1.0	51.5	11.81	104	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180918A: 39** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.7**

Analysis Date: **09/18/18 13:26** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.524	0.050	0.5	0.0237	100	70	130				
Calcium	58.9	1.0	25	35.32	95	70	130				
Magnesium	33.5	1.0	25	8.745	99	70	130				
Potassium	28.6	1.0	25	2.808	103	70	130				
Sodium	37.3	1.0	25	11.81	102	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180918A: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001CMSD3** Method: **E200.7**

Analysis Date: **09/18/18 13:30** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.526	0.050	0.5	0.0237	100	70	130	0.5237	0.4	20	
Calcium	59.6	1.0	25	35.32	97	70	130	58.95	1.1	20	
Magnesium	34.0	1.0	25	8.745	101	70	130	33.52	1.5	20	
Potassium	29.9	1.0	25	2.808	108	70	130	28.56	4.6	20	
Sodium	39.0	1.0	25	11.81	109	70	130	37.3	4.4	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180918A: 51** SampType: **Serial Dilution** Lab ID: **H18090303-006CDIL** Method: **E200.7**

Analysis Date: **09/18/18 14:11** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0960	0.050		0		0	0	0.08204		10	N
Calcium	66.6	1.0		0		0	0	67.24	0.9	10	
Magnesium	15.1	1.0		0		0	0	15.13	0.4	10	
Potassium	6.48	1.0		0		0	0	6.825	5.2	10	
Sodium	35.6	1.0		0		0	0	37.57	5.4	10	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180918A: 52** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-006CPDS** Method: **E200.7**

Analysis Date: **09/18/18 14:15** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.06	0.050	1.03	0.08204	95	70	130				
Calcium	116	1.0	51.5	67.24	95	70	130				
Magnesium	67.0	1.0	51.5	15.13	101	70	130				
Potassium	60.6	1.0	51.5	6.825	104	70	130				
Sodium	91.0	1.0	51.5	37.57	104	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180918A: 53** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006CMS3** Method: **E200.7**

Analysis Date: **09/18/18 14:19** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.589	0.050	0.5	0.08204	101	70	130				
Calcium	91.3	1.0	25	67.24	96	70	130				
Magnesium	40.4	1.0	25	15.13	101	70	130				
Potassium	33.5	1.0	25	6.825	107	70	130				
Sodium	63.7	1.0	25	37.57	105	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180918A: 54** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.7**

Analysis Date: **09/18/18 14:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.599	0.050	0.5	0.08204	103	70	130	0.5893	1.6	20	
Calcium	92.3	1.0	25	67.24	100	70	130	91.26	1.2	20	
Magnesium	40.9	1.0	25	15.13	103	70	130	40.37	1.3	20	
Potassium	34.3	1.0	25	6.825	110	70	130	33.46	2.4	20	
Sodium	65.4	1.0	25	37.57	111	70	130	63.74	2.6	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 41** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.7**

Analysis Date: **09/19/18 15:54** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									
Magnesium	0.02	0.009									
Potassium	ND	0.06									
Sodium	0.03	0.03									

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.7**

Analysis Date: **09/19/18 15:58** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.492	0.050	0.5	0	98	85	115				
Calcium	24.8	1.0	25	0	99	85	115				
Magnesium	24.6	1.0	25	0.01523	98	85	115				
Potassium	27.7	1.0	25	0	111	85	115				
Sodium	26.3	1.0	25	0.03483	105	85	115				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180919B: 44** SampType: **Serial Dilution** Lab ID: **H18090302-001CDIL** Method: **E200.7**

Analysis Date: **09/19/18 16:05** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0.01917		10	
Calcium	34.0	1.0		0		0	0	33.42	1.8	10	
Magnesium	8.49	1.0		0		0	0	8.14	4.2	10	
Potassium	2.72	1.0		0		0	0	2.961		10	N
Sodium	11.4	3.0		0		0	0	11.6		10	N

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 45** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090302-001CPDS** Method: **E200.7**

Analysis Date: **09/19/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.935	0.050	1.03	0.01917	89	70	130				
Calcium	84.5	1.0	51.5	33.42	99	70	130				
Magnesium	60.3	1.0	51.5	8.14	101	70	130				
Potassium	60.5	1.0	51.5	2.961	112	70	130				
Sodium	66.3	1.0	51.5	11.6	106	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 46** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.7**

Analysis Date: **09/19/18 16:13** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.493	0.050	0.5	0.01917	95	70	130				
Calcium	57.7	1.0	25	33.42	97	70	130				
Magnesium	32.3	1.0	25	8.14	96	70	130				
Potassium	30.0	1.0	25	2.961	108	70	130				
Sodium	37.1	1.0	25	11.6	102	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180919B: 49** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001CMSD3** Method: **E200.7**

Analysis Date: **09/19/18 16:24** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.501	0.050	0.5	0.01917	96	70	130	0.4928	1.7	20	
Calcium	57.2	1.0	25	33.42	95	70	130	57.71	0.9	20	
Magnesium	32.2	1.0	25	8.14	96	70	130	32.26	0.2	20	
Potassium	30.9	1.0	25	2.961	112	70	130	30	2.9	20	
Sodium	37.7	1.0	25	11.6	104	70	130	37.14	1.4	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 58** SampType: **Serial Dilution** Lab ID: **H18090303-006CDIL** Method: **E200.7**

Analysis Date: **09/19/18 16:58** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0866	0.050		0		0	0	0.07658		10	N
Calcium	54.2	1.0		0		0	0	64.25	17	10	R
Magnesium	12.2	1.0		0		0	0	14.23	16	10	R
Potassium	5.31	1.0		0		0	0	6.918	26	10	R
Sodium	30.7	3.0		0		0	0	36.39	17	10	R

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 69** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-006CPDS** Method: **E200.7**

Analysis Date: **09/19/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1.03	0.07658	91	70	130				
Calcium	116	1.0	51.5	64.25	100	70	130				
Magnesium	66.3	1.0	51.5	14.23	101	70	130				
Potassium	59.5	1.0	51.5	6.918	102	70	130				
Sodium	88.8	1.0	51.5	36.39	102	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICP2-HE_180919B: 70** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006CMS3** Method: **E200.7**

Analysis Date: **09/19/18 17:43** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.566	0.050	0.5	0.07658	**98**	70	130				
Calcium	90.7	1.0	25	64.25	**106**	70	130				
Magnesium	39.5	1.0	25	14.23	**101**	70	130				
Potassium	31.5	1.0	25	6.918	**98**	70	130				
Sodium	60.2	1.0	25	36.39	**95**	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICP2-HE_180919B: 71** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.7**

Analysis Date: **09/19/18 17:47** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.592	0.050	0.5	0.07658	**103**	70	130	0.5656	**4.5**	20	
Calcium	93.0	1.0	25	64.25	**115**	70	130	90.66	**2.5**	20	
Magnesium	40.8	1.0	25	14.23	**106**	70	130	39.54	**3.2**	20	
Potassium	32.7	1.0	25	6.918	**103**	70	130	31.53	**3.8**	20	
Sodium	62.2	1.0	25	36.39	**103**	70	130	60.25	**3.2**	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 83** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.8**

Analysis Date: **09/18/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	0.0001	0.0001									
Arsenic	0.0001	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	0.0002	0.0001									
Cobalt	ND	6E-05									
Copper	ND	0.0002									
Iron	ND	0.004									
Lead	ND	4E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	ND	5E-05									
Silver	ND	9E-06									
Uranium	ND	9E-06									
Vanadium	0.001	2E-05									
Zinc	0.002	0.001									

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICPMS205-H_180918A: 89** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.8**

Analysis Date: **09/18/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0	**96**	85	115				
Antimony	0.551	0.0010	0.5	0.0001307	**110**	85	115				
Arsenic	0.484	0.0010	0.5	0.0001119	**97**	85	115				
Barium	0.510	0.050	0.5	0	**102**	85	115				
Beryllium	0.227	0.0010	0.25	0	**91**	85	115				
Cadmium	0.254	0.0010	0.25	0	**102**	85	115				
Chromium	0.520	0.0050	0.5	0.0001643	**104**	85	115				
Cobalt	0.494	0.0050	0.5	0	**99**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 89** SampType: **Laboratory Control Sample** Lab ID: **LCS-43120** Method: **E200.8**

Analysis Date: **09/18/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.501	0.0050	0.5	0	100	85	115				
Iron	2.45	0.020	2.5	0	98	85	115				
Lead	0.498	0.0010	0.5	0	100	85	115				
Manganese	2.45	0.0010	2.5	0	98	85	115				
Molybdenum	0.538	0.0010	0.5	0	108	85	115				
Nickel	0.494	0.0050	0.5	0	99	85	115				
Selenium	0.492	0.0010	0.5	0	98	85	115				
Silver	0.0526	0.0010	0.05	0	105	85	115				
Uranium	0.492	0.00030	0.5	0	99	85	115				
Vanadium	0.502	0.010	0.5	0.001425	100	85	115				
Zinc	0.486	0.010	0.5	0.001847	97	85	115				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICPMS205-H_180918A: 90** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.8**

Analysis Date: **09/18/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.39	0.030	2.5	0.0319	94	70	130				
Antimony	0.540	0.0010	0.5	0.0003763	108	70	130				
Arsenic	0.490	0.0010	0.5	0.003704	97	70	130				
Barium	0.538	0.050	0.5	0.0501	98	70	130				
Beryllium	0.229	0.0010	0.25	0	92	70	130				
Cadmium	0.244	0.0010	0.25	0	98	70	130				
Chromium	0.507	0.0050	0.5	0.0003369	101	70	130				
Cobalt	0.499	0.0050	0.5	0	100	70	130				
Copper	0.496	0.0050	0.5	0.002107	99	70	130				
Iron	2.78	0.020	2.5	0.3795	96	70	130				
Lead	0.500	0.0010	0.5	0.0002129	100	70	130				
Manganese	2.48	0.0010	2.5	0.03241	98	70	130				
Molybdenum	0.526	0.0010	0.5	0.005507	104	70	130				
Nickel	0.488	0.0050	0.5	0.0003165	97	70	130				
Selenium	0.485	0.0010	0.5	0.00035	97	70	130				
Silver	0.0504	0.0010	0.05	0	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 90** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001CMS3** Method: **E200.8**

Analysis Date: **09/18/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.493	0.00030	0.5	0.003561	98	70	130				
Vanadium	0.502	0.010	0.5	0.003947	100	70	130				
Zinc	0.482	0.010	0.5	0.003866	96	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICPMS205-H_180918A: 91** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 12:26** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.45	0.030	2.5	0.0319	97	70	130	2.394	2.4	20	
Antimony	0.569	0.0010	0.5	0.0003763	114	70	130	0.54	5.2	20	
Arsenic	0.504	0.0010	0.5	0.003704	100	70	130	0.4901	2.7	20	
Barium	0.574	0.050	0.5	0.0501	105	70	130	0.5382	6.4	20	
Beryllium	0.239	0.0010	0.25	0	95	70	130	0.2291	4.1	20	
Cadmium	0.259	0.0010	0.25	0	104	70	130	0.2445	5.8	20	
Chromium	0.508	0.0050	0.5	0.0003369	101	70	130	0.5073	0.1	20	
Cobalt	0.506	0.0050	0.5	0	101	70	130	0.4993	1.3	20	
Copper	0.517	0.0050	0.5	0.002107	103	70	130	0.4961	4.1	20	
Iron	2.87	0.020	2.5	0.3795	100	70	130	2.785	3.0	20	
Lead	0.516	0.0010	0.5	0.0002129	103	70	130	0.5	3.1	20	
Manganese	2.55	0.0010	2.5	0.03241	101	70	130	2.478	2.9	20	
Molybdenum	0.533	0.0010	0.5	0.005507	105	70	130	0.5265	1.2	20	
Nickel	0.502	0.0050	0.5	0.0003165	100	70	130	0.4878	2.8	20	
Selenium	0.499	0.0010	0.5	0.00035	100	70	130	0.4846	3.0	20	
Silver	0.0531	0.0010	0.05	0	106	70	130	0.05044	5.1	20	
Uranium	0.505	0.00030	0.5	0.003561	100	70	130	0.4935	2.3	20	
Vanadium	0.510	0.010	0.5	0.003947	101	70	130	0.5022	1.6	20	
Zinc	0.496	0.010	0.5	0.003866	98	70	130	0.4822	2.8	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 102** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006CMS3** Method: **E200.8**

Analysis Date: **09/18/18 12:47** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.41	0.030	2.5	0.04013	95	70	130				
Antimony	0.547	0.0010	0.5	0.0005828	109	70	130				
Arsenic	0.493	0.0010	0.5	0.004763	98	70	130				
Barium	0.535	0.050	0.5	0.04517	98	70	130				
Beryllium	0.221	0.0010	0.25	0	88	70	130				
Cadmium	0.242	0.0010	0.25	0.0002377	97	70	130				
Chromium	0.504	0.0050	0.5	0.0002588	101	70	130				
Cobalt	0.489	0.0050	0.5	0.0001011	98	70	130				
Copper	0.532	0.0050	0.5	0.02175	102	70	130				
Iron	2.52	0.020	2.5	0.1067	96	70	130				
Lead	0.502	0.0010	0.5	0.0005541	100	70	130				
Manganese	2.51	0.0010	2.5	0.07368	97	70	130				
Molybdenum	0.544	0.0010	0.5	0.00565	108	70	130				
Nickel	0.488	0.0050	0.5	0.0009528	97	70	130				
Selenium	0.485	0.0010	0.5	0.0004035	97	70	130				
Silver	0.0498	0.0010	0.05	0	100	70	130				
Uranium	0.508	0.00030	0.5	0.005503	100	70	130				
Vanadium	0.502	0.010	0.5	0.00305	100	70	130				
Zinc	0.554	0.010	0.5	0.085	94	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICPMS205-H_180918A: 103** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.030	2.5	0.04013	98	70	130	2.408	2.9	20	
Antimony	0.549	0.0010	0.5	0.0005828	110	70	130	0.5472	0.4	20	
Arsenic	0.505	0.0010	0.5	0.004763	100	70	130	0.4933	2.4	20	
Barium	0.560	0.050	0.5	0.04517	103	70	130	0.5346	4.6	20	
Beryllium	0.232	0.0010	0.25	0	93	70	130	0.221	4.9	20	
Cadmium	0.254	0.0010	0.25	0.0002377	102	70	130	0.2419	4.9	20	
Chromium	0.524	0.0050	0.5	0.0002588	105	70	130	0.5043	3.9	20	
Cobalt	0.508	0.0050	0.5	0.0001011	102	70	130	0.4895	3.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180918A: 103** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.528	0.0050	0.5	0.02175	101	70	130	0.5317	0.6	20	
Iron	2.60	0.020	2.5	0.1067	100	70	130	2.516	3.3	20	
Lead	0.517	0.0010	0.5	0.0005541	103	70	130	0.502	2.9	20	
Manganese	2.57	0.0010	2.5	0.07368	100	70	130	2.511	2.5	20	
Molybdenum	0.540	0.0010	0.5	0.00565	107	70	130	0.5439	0.7	20	
Nickel	0.497	0.0050	0.5	0.0009528	99	70	130	0.4878	1.9	20	
Selenium	0.499	0.0010	0.5	0.0004035	100	70	130	0.4847	2.8	20	
Silver	0.0523	0.0010	0.05	0	105	70	130	0.04982	4.9	20	
Uranium	0.501	0.00030	0.5	0.005503	99	70	130	0.508	1.3	20	
Vanadium	0.516	0.010	0.5	0.00305	103	70	130	0.5023	2.7	20	
Zinc	0.569	0.010	0.5	0.085	97	70	130	0.5545	2.5	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICPMS205-H_180919A: 62** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.8**

Analysis Date: **09/19/18 12:38** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0001									
Arsenic	0.0001	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	ND	0.0001									
Cobalt	ND	6E-05									
Copper	0.0002	0.0002									
Iron	ND	0.004									
Lead	ND	4E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	8E-05	5E-05									
Silver	1E-05	9E-06									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180919A: 62** SampType: **Method Blank** Lab ID: **MB-43120** Method: **E200.8**

Analysis Date: **09/19/18 12:38** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	9E-06									
Vanadium	0.002	2E-05									
Zinc	0.002	0.001									

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Run ID :Run Order: **ICPMS205-H_180919A: 69** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006CMS3** Method: **E200.8**

Analysis Date: **09/19/18 12:51** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.030	2.5	0.04143	97	70	130				
Antimony	0.562	0.0010	0.5	0.0005672	112	70	130				
Arsenic	0.499	0.0010	0.5	0.004866	99	70	130				
Barium	0.548	0.050	0.5	0.04479	101	70	130				
Beryllium	0.236	0.0010	0.25	0	95	70	130				
Cadmium	0.248	0.0010	0.25	0.0002478	99	70	130				
Chromium	0.506	0.0050	0.5	0.0002385	101	70	130				
Cobalt	0.492	0.0050	0.5	0.0001168	98	70	130				
Copper	0.512	0.0050	0.5	0.02179	98	70	130				
Iron	2.60	0.020	2.5	0.1105	100	70	130				
Lead	0.492	0.0010	0.5	0.0006002	98	70	130				
Manganese	2.59	0.0010	2.5	0.07549	101	70	130				
Molybdenum	0.543	0.0010	0.5	0.005658	107	70	130				
Nickel	0.487	0.0050	0.5	0.0008497	97	70	130				
Selenium	0.478	0.0010	0.5	0.0003957	96	70	130				
Silver	0.0504	0.0010	0.05	0.00001094	101	70	130				
Uranium	0.484	0.00030	0.5	0.005448	96	70	130				
Vanadium	0.513	0.010	0.5	0.003866	102	70	130				
Zinc	0.564	0.010	0.5	0.08649	96	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43120

Run ID :Run Order: **ICPMS205-H_180919A: 70** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006CMSD3** Method: **E200.8**

Analysis Date: **09/19/18 12:53** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.030	2.5	0.04143	102	70	130	2.477	4.2	20	
Antimony	0.570	0.0010	0.5	0.0005672	114	70	130	0.5625	1.4	20	
Arsenic	0.522	0.0010	0.5	0.004866	103	70	130	0.4988	4.6	20	
Barium	0.572	0.050	0.5	0.04479	105	70	130	0.5485	4.2	20	
Beryllium	0.243	0.0010	0.25	0	97	70	130	0.2364	2.9	20	
Cadmium	0.258	0.0010	0.25	0.0002478	103	70	130	0.2484	3.8	20	
Chromium	0.534	0.0050	0.5	0.0002385	107	70	130	0.5059	5.3	20	
Cobalt	0.515	0.0050	0.5	0.0001168	103	70	130	0.4921	4.6	20	
Copper	0.539	0.0050	0.5	0.02179	103	70	130	0.5123	5.0	20	
Iron	2.76	0.020	2.5	0.1105	106	70	130	2.601	5.8	20	
Lead	0.533	0.0010	0.5	0.0006002	106	70	130	0.4919	8.0	20	
Manganese	2.73	0.0010	2.5	0.07549	106	70	130	2.588	5.2	20	
Molybdenum	0.542	0.0010	0.5	0.005658	107	70	130	0.5431	0.2	20	
Nickel	0.508	0.0050	0.5	0.0008497	101	70	130	0.4871	4.1	20	
Selenium	0.493	0.0010	0.5	0.0003957	99	70	130	0.478	3.1	20	
Silver	0.0525	0.0010	0.05	0.00001094	105	70	130	0.05035	4.1	20	
Uranium	0.517	0.00030	0.5	0.005448	102	70	130	0.4845	6.5	20	
Vanadium	0.529	0.010	0.5	0.003866	105	70	130	0.5126	3.1	20	
Zinc	0.585	0.010	0.5	0.08649	100	70	130	0.564	3.7	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICP2-HE_180918A: 77** SampType: **Method Blank** Lab ID: **MB-43121** Method: **E200.7**

Analysis Date: **09/18/18 15:49** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.09									
Magnesium	ND	0.009									
Potassium	ND	0.06									
Sodium	ND	0.03									

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 78** SampType: **Laboratory Control Sample** Lab ID: **LCS-43121** Method: **E200.7**

Analysis Date: **09/18/18 15:53** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.2	1.0	25	0	**101**	85	115				
Magnesium	24.9	1.0	25	0	**99**	85	115				
Potassium	26.2	1.0	25	0	**105**	85	115				
Sodium	26.1	1.0	25	0	**105**	85	115				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 81** SampType: **Serial Dilution** Lab ID: **H18090303-015CDIL** Method: **E200.7**

Analysis Date: **09/18/18 16:04** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	54.8	1.0		0		0	0	56.97	**3.8**	10	
Magnesium	12.2	1.0		0		0	0	12.47	**2.4**	10	
Potassium	4.95	1.0		0		0	0	5.241	**5.7**	10	
Sodium	29.1	1.0		0		0	0	30.23	**3.7**	10	

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 82** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-015CPDS** Method: **E200.7**

Analysis Date: **09/18/18 16:08** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	108	1.0	51.5	56.97	**99**	70	130				
Magnesium	64.7	1.0	51.5	12.47	**101**	70	130				
Potassium	58.1	1.0	51.5	5.241	**103**	70	130				
Sodium	82.4	1.0	51.5	30.23	**101**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICP2-HE_180918A: 82** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-015CPDS** Method: **E200.7**

Analysis Date: **09/18/18 16:08** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 83** SampType: **Sample Matrix Spike** Lab ID: **H18090303-015CMS3** Method: **E200.7**

Analysis Date: **09/18/18 16:12** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	82.0	1.0	25	56.97	100	70	130				
Magnesium	37.5	1.0	25	12.47	100	70	130				
Potassium	30.2	1.0	25	5.241	100	70	130				
Sodium	54.0	1.0	25	30.23	95	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 84** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-015CMSD3** Method: **E200.7**

Analysis Date: **09/18/18 16:15** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	82.7	1.0	25	56.97	103	70	130	81.98	0.9	20	
Magnesium	37.6	1.0	25	12.47	101	70	130	37.53	0.2	20	
Potassium	30.3	1.0	25	5.241	100	70	130	30.21	0.2	20	
Sodium	54.4	1.0	25	30.23	97	70	130	54.02	0.8	20	

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 81** SampType: **Method Blank** Lab ID: **MB-43121** Method: **E200.7**

Analysis Date: **09/19/18 18:25** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.09									
Magnesium	0.02	0.009									
Potassium	ND	0.06									
Sodium	ND	0.03									

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICP2-HE_180919B: 82** SampType: **Laboratory Control Sample** Lab ID: **LCS-43121** Method: **E200.7**

Analysis Date: **09/19/18 18:28** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.1	1.0	25	0	**96**	85	115				
Magnesium	23.8	1.0	25	0.01572	**95**	85	115				
Potassium	26.6	1.0	25	0	**106**	85	115				
Sodium	26.8	1.0	25	0	**107**	85	115				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICPMS205-H_180918A: 120** SampType: **Method Blank** Lab ID: **MB-43121** Method: **E200.8**

Analysis Date: **09/18/18 13:22** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	0.0001	0.0001									
Arsenic	0.0001	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Chromium	0.0001	0.0001									
Cobalt	ND	6E-05									
Copper	ND	0.0002									
Lead	ND	4E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	ND	5E-05									
Silver	ND	9E-06									
Uranium	ND	9E-06									
Vanadium	0.002	2E-05									
Zinc	0.002	0.001									

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 125** SampType: **Laboratory Control Sample** Lab ID: **LCS-43121** Method: **E200.8**

Analysis Date: **09/18/18 13:32** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.37	0.030	2.5	0	**95**	85	115				
Antimony	0.543	0.0010	0.5	0.0001385	**109**	85	115				
Arsenic	0.485	0.0010	0.5	0.0001085	**97**	85	115				
Barium	0.495	0.050	0.5	0	**99**	85	115				
Beryllium	0.226	0.0010	0.25	0	**91**	85	115				
Chromium	0.529	0.0050	0.5	0.000122	**106**	85	115				
Cobalt	0.504	0.0050	0.5	0	**101**	85	115				
Copper	0.505	0.0050	0.5	0	**101**	85	115				
Lead	0.500	0.0010	0.5	0	**100**	85	115				
Manganese	2.47	0.0010	2.5	0	**99**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICPMS205-H_180918A: 125** SampType: **Laboratory Control Sample** Lab ID: **LCS-43121** Method: **E200.8**

Analysis Date: **09/18/18 13:32** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.520	0.0010	0.5	0	104	85	115				
Nickel	0.498	0.0050	0.5	0	100	85	115				
Selenium	0.489	0.0010	0.5	0	98	85	115				
Silver	0.0515	0.0010	0.05	0	103	85	115				
Uranium	0.493	0.00030	0.5	0	99	85	115				
Vanadium	0.494	0.010	0.5	0.001517	99	85	115				
Zinc	0.485	0.010	0.5	0.001685	97	85	115				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 126** SampType: **Sample Matrix Spike** Lab ID: **H18090303-015CMS3** Method: **E200.8**

Analysis Date: **09/18/18 13:34** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.49	0.030	2.5	0.09767	96	70	130				
Antimony	0.544	0.0010	0.5	0.000475	109	70	130				
Arsenic	0.495	0.0010	0.5	0.006355	98	70	130				
Barium	0.536	0.050	0.5	0.03741	100	70	130				
Beryllium	0.222	0.0010	0.25	0	89	70	130				
Chromium	0.509	0.0050	0.5	0.0002473	102	70	130				
Cobalt	0.500	0.0050	0.5	0.0003404	100	70	130				
Copper	0.516	0.0050	0.5	0.01609	100	70	130				
Lead	0.495	0.0010	0.5	0.000859	99	70	130				
Manganese	2.49	0.0010	2.5	0.05119	98	70	130				
Molybdenum	0.527	0.0010	0.5	0.004429	104	70	130				
Nickel	0.488	0.0050	0.5	0.0007936	98	70	130				
Selenium	0.484	0.0010	0.5	0.0003212	97	70	130				
Silver	0.0506	0.0010	0.05	0.00001289	101	70	130				
Uranium	0.493	0.00030	0.5	0.0045	98	70	130				
Vanadium	0.492	0.010	0.5	0.00333	98	70	130				
Zinc	0.536	0.010	0.5	0.06198	95	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICPMS205-H_180918A: 127** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-015CMSD3** Method: **E200.8**

Analysis Date: **09/18/18 13:36** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.49	0.030	2.5	0.09767	96	70	130	2.493	0.2	20	
Antimony	0.548	0.0010	0.5	0.000475	109	70	130	0.5436	0.8	20	
Arsenic	0.492	0.0010	0.5	0.006355	97	70	130	0.4951	0.6	20	
Barium	0.538	0.050	0.5	0.03741	100	70	130	0.5358	0.4	20	
Beryllium	0.230	0.0010	0.25	0	92	70	130	0.2224	3.2	20	
Chromium	0.511	0.0050	0.5	0.0002473	102	70	130	0.5089	0.5	20	
Cobalt	0.495	0.0050	0.5	0.0003404	99	70	130	0.5004	1.0	20	
Copper	0.513	0.0050	0.5	0.01609	99	70	130	0.5156	0.5	20	
Lead	0.497	0.0010	0.5	0.000859	99	70	130	0.4954	0.2	20	
Manganese	2.50	0.0010	2.5	0.05119	98	70	130	2.494	0.2	20	
Molybdenum	0.536	0.0010	0.5	0.004429	106	70	130	0.5267	1.8	20	
Nickel	0.486	0.0050	0.5	0.0007936	97	70	130	0.4883	0.4	20	
Selenium	0.490	0.0010	0.5	0.0003212	98	70	130	0.4845	1.2	20	
Silver	0.0510	0.0010	0.05	0.00001289	102	70	130	0.05061	0.8	20	
Uranium	0.499	0.00030	0.5	0.0045	99	70	130	0.4928	1.3	20	
Vanadium	0.507	0.010	0.5	0.00333	101	70	130	0.4921	2.9	20	
Zinc	0.536	0.010	0.5	0.06198	95	70	130	0.5357	0.1	20	

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180919A: 88** SampType: **Method Blank** Lab ID: **MB-43121** Method: **E200.8**

Analysis Date: **09/19/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0001									
Arsenic	0.0001	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Chromium	ND	0.0001									
Cobalt	ND	6E-05									
Copper	ND	0.0002									
Lead	ND	4E-05									
Manganese	ND	0.0003									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43121

Run ID :Run Order: **ICPMS205-H_180919A: 88** SampType: **Method Blank** Lab ID: **MB-43121** Method: **E200.8**

Analysis Date: **09/19/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	6E-05	5E-05									
Silver	ND	9E-06									
Uranium	ND	9E-06									
Vanadium	0.002	2E-05									
Zinc	0.002	0.001									

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43128

Run ID :Run Order: **FIA203-HE_180918B: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **A4500 N-C**
Analysis Date: **09/18/18 13:50** Units: **mg/L** **Prep Info:** Prep Date: **8/1/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.01	0.10	1	0	101	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A**

Run ID :Run Order: **FIA203-HE_180918B: 11** SampType: **Laboratory Control Sample** Lab ID: **LCS-43128** Method: **A4500 N-C**
Analysis Date: **09/18/18 13:51** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	7.81	0.30	7.44	0	105	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A**

Run ID :Run Order: **FIA203-HE_180918B: 12** SampType: **Method Blank** Lab ID: **MB-43128** Method: **A4500 N-C**
Analysis Date: **09/18/18 13:55** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.03									

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A**

Run ID :Run Order: **FIA203-HE_180918B: 28** SampType: **Sample Matrix Spike** Lab ID: **H18090302-003AMS** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:14** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.08	0.10	1	0.09374	99	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A**

Run ID :Run Order: **FIA203-HE_180918B: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-003AMSD** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:15** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.11	0.10	1	0.09374	101	90	110	1.081	2.4	20	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43129

Run ID :Run Order: **FIA203-HE_180918B: 41** SampType: **Laboratory Control Sample** Lab ID: **LCS-43129** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	7.38	0.30	7.44	0	99	90	110				

Associated samples: **H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **FIA203-HE_180918B: 42** SampType: **Method Blank** Lab ID: **MB-43129** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:30** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.03									

Associated samples: **H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **FIA203-HE_180918B: 44** SampType: **Sample Matrix Spike** Lab ID: **H18090303-010AMS** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:33** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.72	0.10	1	0.8184	91	90	110				

Associated samples: **H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **FIA203-HE_180918B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-010AMSD** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:34** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.72	0.10	1	0.8184	91	90	110	1.724	0.0	20	

Associated samples: **H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **FIA203-HE_180918B: 58** SampType: **Sample Matrix Spike** Lab ID: **H18090309-003BMS** Method: **A4500 N-C**
Analysis Date: **09/18/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.64	0.10	1	0.6764	96	90	110				

Associated samples: **H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43134

Run ID :Run Order: **FIA202-HE_180918B: 57** SampType: **Method Blank** Lab ID: **MB-43134** Method: **E365.1**
Analysis Date: **09/18/18 15:58** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0004									

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D**

Run ID :Run Order: **FIA202-HE_180918B: 58** SampType: **Laboratory Control Sample** Lab ID: **LCS-43134** Method: **E365.1**
Analysis Date: **09/18/18 15:59** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.396	0.010	0.4	0	**99**	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D**

Run ID :Run Order: **FIA202-HE_180918B: 78** SampType: **Sample Matrix Spike** Lab ID: **H18090302-001DMS** Method: **E365.1**
Analysis Date: **09/18/18 16:26** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.276	0.010	0.2	0.0761	**100**	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D**

Run ID :Run Order: **FIA202-HE_180918B: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-001DMSD** Method: **E365.1**
Analysis Date: **09/18/18 16:27** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.289	0.010	0.2	0.0761	**106**	90	110	0.2755	**4.7**	20	

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43135

Run ID :Run Order: **FIA202-HE_180918B: 88** SampType: **Method Blank** Lab ID: **MB-43135** Method: **E365.1**
Analysis Date: **09/18/18 16:37** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.001	0.0004									

Associated samples: **H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180918B: 89** SampType: **Laboratory Control Sample** Lab ID: **LCS-43135** Method: **E365.1**
Analysis Date: **09/18/18 16:38** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.421	0.010	0.4	0.00124	105	90	110				

Associated samples: **H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180918B: 91** SampType: **Sample Matrix Spike** Lab ID: **H18090303-005DMS** Method: **E365.1**
Analysis Date: **09/18/18 16:40** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.191	0.010	0.2	0.00162	95	90	110				

Associated samples: **H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Run ID :Run Order: **FIA202-HE_180918B: 92** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-005DMSD** Method: **E365.1**
Analysis Date: **09/18/18 16:41** Units: **mg/L** **Prep Info:** Prep Date: **9/18/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.187	0.010	0.2	0.00162	93	90	110	0.1911	2.1	20	

Associated samples: **H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43146

Run ID :Run Order: **FIA202-HE_180919A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43146** Method: **E365.1**
Analysis Date: **09/19/18 16:07** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.397	0.010	0.4	0.00284	99	90	110				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D**

Run ID :Run Order: **FIA202-HE_180919A: 16** SampType: **Method Blank** Lab ID: **MB-43146** Method: **E365.1**
Analysis Date: **09/19/18 16:14** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0004									

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D**

Run ID :Run Order: **FIA202-HE_180919A: 24** SampType: **Sample Matrix Spike** Lab ID: **H18090303-011DMS** Method: **E365.1**
Analysis Date: **09/19/18 16:23** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.278	0.010	0.2	0.07474	101	90	110				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D**

Run ID :Run Order: **FIA202-HE_180919A: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-011DMSD** Method: **E365.1**
Analysis Date: **09/19/18 16:27** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.275	0.010	0.2	0.07474	100	90	110	0.2777	0.8	20	

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D**

Run ID :Run Order: **FIA202-HE_180919A: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-013DMSD** Method: **E365.1**
Analysis Date: **09/19/18 16:41** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.271	0.010	0.2	0.06751	102	90	110	0.2769	2.1	20	

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43146

Run ID :Run Order: **FIA202-HE_180919A: 43** SampType: **Sample Matrix Spike** Lab ID: **H18090303-013DMS** Method: **E365.1**

Analysis Date: **09/19/18 16:44** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.277	0.010	0.2	0.06751	**105**	90	110				

Associated samples: **H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43147

Run ID :Run Order: **FIA202-HE_180919A: 47** SampType: **Laboratory Control Sample** Lab ID: **LCS-43147** Method: **E365.1**
Analysis Date: **09/19/18 16:49** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.390	0.010	0.4	0	98	90	110				

Associated samples: **H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA202-HE_180919A: 49** SampType: **Method Blank** Lab ID: **MB-43147** Method: **E365.1**
Analysis Date: **09/19/18 16:51** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.0004									

Associated samples: **H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA202-HE_180919A: 51** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-015DMSD** Method: **E365.1**
Analysis Date: **09/19/18 16:53** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.297	0.010	0.2	0.07567	110	90	110	0.2808	5.5	20	

Associated samples: **H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA202-HE_180919A: 53** SampType: **Sample Matrix Spike** Lab ID: **H18090303-015DMS** Method: **E365.1**
Analysis Date: **09/19/18 16:55** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.281	0.010	0.2	0.07567	103	90	110				

Associated samples: **H18090303-015D, H18090303-016D, H18090303-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43148

Run ID :Run Order: **HGCV202-H_180921A: 37** SampType: **Method Blank** Lab ID: **MB-43148** Method: **E245.1**
Analysis Date: **09/21/18 12:11** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **HGCV202-H_180921A: 38** SampType: **Laboratory Control Sample** Lab ID: **LCS-43148** Method: **E245.1**
Analysis Date: **09/21/18 12:14** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.40E-05	0.00010	0.000075	0	99	90	110				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **HGCV202-H_180921A: 40** SampType: **Sample Matrix Spike** Lab ID: **H18090303-001BMS** Method: **E245.1**
Analysis Date: **09/21/18 12:20** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.43E-05	5.0E-06	0.000075	0	99	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **HGCV202-H_180921A: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-001BMSD** Method: **E245.1**
Analysis Date: **09/21/18 12:24** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.45E-05	5.0E-06	0.000075	0	99	70	130	0.00007428	0.3	20	

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **HGCV202-H_180921A: 54** SampType: **Sample Matrix Spike** Lab ID: **H18090303-011BMS** Method: **E245.1**
Analysis Date: **09/21/18 13:06** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.58E-05	5.0E-06	0.000075	0.00000114	100	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43148

Run ID :Run Order: **HGCV202-H_180921A: 54** SampType: **Sample Matrix Spike** Lab ID: **H18090303-011BMS** Method: **E245.1**

Analysis Date: **09/21/18 13:06** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **HGCV202-H_180921A: 55** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-011BMSD** Method: **E245.1**

Analysis Date: **09/21/18 13:09** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.30E-05	5.0E-06	0.000075	0.00000114	**96**	70	130	0.00007578	**3.7**	20	

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43149

Run ID :Run Order: **HGCV202-H_180921A: 64** SampType: **Method Blank** Lab ID: **MB-43149** Method: **E245.1**
Analysis Date: **09/21/18 13:38** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 65** SampType: **Laboratory Control Sample** Lab ID: **LCS-43149** Method: **E245.1**
Analysis Date: **09/21/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.62E-05	0.00010	0.000075	0	102	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 67** SampType: **Sample Matrix Spike** Lab ID: **H18090303-001CMS** Method: **E245.1**
Analysis Date: **09/21/18 13:48** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.90E-05	5.0E-06	0.000075	0.00000279	102	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 68** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-001CMSD** Method: **E245.1**
Analysis Date: **09/21/18 13:51** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.00E-05	5.0E-06	0.000075	0.00000279	103	70	130	0.00007896	1.3	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 135** SampType: **Sample Matrix Spike** Lab ID: **H18090303-011CMS** Method: **E245.1**
Analysis Date: **09/21/18 14:34** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.08E-05	5.0E-06	0.000075	0.00000386	103	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43149

Run ID :Run Order: **HGCV202-H_180921A: 135** SampType: **Sample Matrix Spike** Lab ID: **H18090303-011CMS** Method: **E245.1**

Analysis Date: **09/21/18 14:34** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 136** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-011CMSD** Method: **E245.1**

Analysis Date: **09/21/18 14:37** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	8.03E-05	5.0E-06	0.000075	0.00000386	**102**	70	130	0.00008084	**0.7**	20	

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180925A: 11** SampType: **Method Blank** Lab ID: **MB-43149** Method: **E245.1**

Analysis Date: **09/25/18 12:06** Units: **mg/L** **Prep Info:** Prep Date: **9/19/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43177

Run ID :Run Order: **ICPMS205-H_180921A: 39** SampType: **Method Blank** Lab ID: **MB-43177** Method: **E200.8**

Analysis Date: **09/21/18 10:23** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2018** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	3E-05									
Iron	ND	0.004									

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 46** SampType: **Laboratory Control Sample** Lab ID: **LCS-43177** Method: **E200.8**

Analysis Date: **09/21/18 10:37** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2018** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.243	0.0010	0.25	0	**97**	85	115				
Iron	2.55	0.020	2.5	0	**102**	85	115				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18090409-001CMS3** Method: **E200.8**

Analysis Date: **09/21/18 11:02** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2018** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.231	0.0010	0.25	0.0002957	**92**	70	130				
Iron	2.46	0.020	2.5	0.06685	**96**	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090409-001CMSD3** Method: **E200.8**

Analysis Date: **09/21/18 11:04** Units: **mg/L** **Prep Info:** Prep Date: **9/20/2018** Prep Method: **E200.2**

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.242	0.0010	0.25	0.0002957	**97**	70	130	0.2306	**5.0**	20	
Iron	2.56	0.020	2.5	0.06685	**100**	70	130	2.465	**3.9**	20	

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 93** SampType: **Method Blank** Lab ID: **MB-43229** Method: **SW6010B**

Analysis Date: **10/01/18 21:22** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	ND	0.2									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 94** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43229** Method: **SW6010B**

Analysis Date: **10/01/18 21:25** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	234	5.0	237.2	0	**99**	80	120				
Boron	44.8	1.0	47.45	0	**94**	80	120				
Iron	254	10	237.2	0	**107**	80	120				
Manganese	237	1.0	237.2	0	**100**	80	120				
Zinc	45.9	1.0	47.45	0	**97**	80	120				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 95** SampType: **Laboratory Control Sample** Lab ID: **LCS-43229** Method: **SW6010B**

Analysis Date: **10/01/18 21:29** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8640	10.0	10030	0	**86**	46.3	130.2				
Boron	106	1.0	131.6	0	**80**	59.5	106.2				
Iron	14900	55	16630	0	**89**	51.7	131.9				
Manganese	412	1.0	442.7	0	**93**	81.1	116.6				
Zinc	231	3.1	235.6	0	**98**	75.3	111.7				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 99** SampType: **Serial Dilution** Lab ID: **H18090303-019ADIL** Method: **SW6010B**

Analysis Date: **10/01/18 21:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3650	59		0		0	0	3697	1.4	10	
Boron	ND	5.7		0		0	0	2.204		10	
Iron	16100	330		0		0	0	15730	2.1	10	
Manganese	1490	5.1		0		0	0	1475	1.1	10	
Zinc	544	18		0		0	0	544.8	0.2	10	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 100** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-019APDS** Method: **SW6010B**

Analysis Date: **10/01/18 21:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5240	12	1557	3697	99	75	125				
Boron	279	1.2	311.5	2.204	89	75	125				
Iron	17000	68	1557	15730		75	125				A
Manganese	2900	1.0	1557	1475	91	75	125				
Zinc	823	3.7	311.5	544.8	89	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 101** SampType: **Sample Matrix Spike** Lab ID: **H18090303-019AMS** Method: **SW6010B**

Analysis Date: **10/01/18 21:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4750	12	298.3	3697		75	125				A
Boron	57.2	1.1	59.67	2.204	92	75	125				
Iron	12900	65	298.3	15730		75	125				A
Manganese	2110	1.0	298.3	1475		75	125				A
Zinc	557	3.6	59.67	544.8		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 102** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-019AMSD** Method: **SW6010B**

Analysis Date: **10/01/18 21:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4930	12	300.8	3697		75	125	4750	**3.8**	20	A
Boron	57.0	1.1	60.17	2.204	**91**	75	125	57.2	**0.3**	20	
Iron	12800	65	300.8	15730		75	125	12940	**1.5**	20	A
Manganese	2200	1.0	300.8	1475		75	125	2114	**4.0**	20	A
Zinc	519	3.6	60.17	544.8		75	125	556.9	**7.1**	20	A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181001B: 114** SampType: **Serial Dilution** Lab ID: **H18090303-020ADIL** Method: **SW6010B**

Analysis Date: **10/01/18 22:40** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3240	57		0		0	0	3169	**2.4**	10	
Boron	ND	5.4		0		0	0	0		10	
Iron	6840	310		0		0	0	6699	**2.1**	10	
Manganese	1950	4.9		0		0	0	1903	**2.2**	10	
Zinc	286	17		0		0	0	280.4	**1.8**	10	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 115** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-020APDS** Method: **SW6010B**

Analysis Date: **10/01/18 22:44** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4720	12	1489	3169	**104**	75	125				
Boron	266	1.1	297.8	0	**89**	75	125				
Iron	8050	65	1489	6699		75	125				A
Manganese	3250	1.0	1489	1903	**90**	75	125				
Zinc	545	3.6	297.8	280.4	**89**	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 116** SampType: **Sample Matrix Spike** Lab ID: **H18090303-020AMS** Method: **SW6010B**

Analysis Date: **10/01/18 22:48** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4390	11	286.1	3169		75	125				A
Boron	53.5	1.1	57.22	0	94	75	125				
Iron	7720	62	286.1	6699		75	125				A
Manganese	1630	1.0	286.1	1903		75	125				A
Zinc	484	3.4	57.22	280.4		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181001B: 117** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-020AMSD** Method: **SW6010B**

Analysis Date: **10/01/18 22:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4430	11	286.4	3169		75	125	4388	0.9	20	A
Boron	56.3	1.1	57.28	0	98	75	125	53.53	5.1	20	
Iron	9020	62	286.4	6699		75	125	7718	16	20	A
Manganese	1330	1.0	286.4	1903		75	125	1628	20	20	AR
Zinc	347	3.5	57.28	280.4		75	125	483.9	33	20	AR

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181001B: 121** SampType: **Serial Dilution** Lab ID: **H18090303-024ADIL** Method: **SW6010B**

Analysis Date: **10/01/18 23:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25500	120		0		0	0	24290	4.7	10	
Boron	ND	12		0		0	0	11.81		10	
Iron	39900	690		0		0	0	36860	7.9	10	
Manganese	3470	11		0		0	0	3247	6.5	10	
Zinc	2500	38		0		0	0	2354	6.1	10	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 124** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-024APDS** Method: **SW6010B**

Analysis Date: **10/01/18 23:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	27700	26	3258	24290		75	125				A
Boron	568	2.4	651.6	11.81	85	75	125				
Iron	40000	140	3258	36860		75	125				A
Manganese	6110	2.2	3258	3247	88	75	125				
Zinc	2980	7.8	651.6	2354	96	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 125** SampType: **Sample Matrix Spike** Lab ID: **H18090303-024AMS** Method: **SW6010B**

Analysis Date: **10/01/18 23:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	28800	24	615.9	24290		75	125				A
Boron	124	2.3	123.2	11.81	91	75	125				
Iron	36200	130	615.9	36860		75	125				A
Manganese	3770	2.1	615.9	3247		75	125				A
Zinc	2460	7.4	123.2	2354		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 126** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-024AMSD** Method: **SW6010B**

Analysis Date: **10/01/18 23:25** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	28100	25	641.2	24290		75	125	28810	2.7	20	A
Boron	131	2.4	128.2	11.81	93	75	125	123.9	5.8	20	
Iron	36600	140	641.2	36860		75	125	36230	1.1	20	A
Manganese	4270	2.2	641.2	3247		75	125	3767	12	20	A
Zinc	2470	7.7	128.2	2354		75	125	2462	0.3	20	A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 133** SampType: **Serial Dilution** Lab ID: **H18090313-001CDIL** Method: **SW6010B**

Analysis Date: **10/01/18 23:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8180	52		0		0	0	8037	**1.8**	10	
Boron	12.7	5.0		0		0	0	15.31		10	N
Iron	21300	290		0		0	0	19670	**7.8**	10	
Manganese	354	4.5		0		0	0	334.5	**5.6**	10	
Zinc	84.5	16		0		0	0	79.68		10	N

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 136** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090313-001CPDS** Method: **SW6010B**

Analysis Date: **10/02/18 00:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9340	11	1368	8037		75	125				A
Boron	248	1.0	273.5	15.31	**85**	75	125				
Iron	20600	59	1368	19670		75	125				A
Manganese	1520	1.0	1368	334.5	**87**	75	125				
Zinc	309	3.3	273.5	79.68	**84**	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICP2-HE_181001B: 137** SampType: **Sample Matrix Spike** Lab ID: **H18090313-001CMS** Method: **SW6010B**

Analysis Date: **10/02/18 00:06** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10900	10	265.6	8037		75	125				A
Boron	64.5	1.0	53.11	15.31	**93**	75	125				
Iron	19600	58	265.6	19670		75	125				A
Manganese	590	1.0	265.6	334.5	**96**	75	125				
Zinc	125	3.2	53.11	79.68	**85**	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICP2-HE_181001B: 138** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090313-001CMSD** Method: **SW6010B**

Analysis Date: **10/02/18 00:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11400	11	270	8037		75	125	10900	**4.8**	20	A
Boron	67.4	1.0	53.99	15.31	**96**	75	125	64.53	**4.4**	20	
Iron	20400	59	270	19670		75	125	19600	**4.2**	20	A
Manganese	586	1.0	270	334.5	**93**	75	125	590.1	**0.6**	20	
Zinc	126	3.3	53.99	79.68	**86**	75	125	124.9	**1.2**	20	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 28** SampType: **Method Blank** Lab ID: **MB-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:26** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	0.1	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Boron	ND	0.7									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Copper	ND	0.3									
Lead	ND	0.07									
Manganese	ND	0.6									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									
Vanadium	0.8	0.07									
Zinc	ND	2									

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	68.3	1.0	244.8	0	**28**	0	92.9				
Arsenic	167	1.0	199.9	0.1053	**84**	71.4	105.1				
Barium	176	1.0	190.7	0	**92**	78.6	112.8				
Beryllium	78.0	1.0	85.27	0	**91**	76.2	108				
Boron	112	3.6	131.6	0	**85**	59.5	106.2				
Cadmium	95.7	1.0	101	0	**95**	73.9	106.1				
Calcium	5670	440	6487	0	**87**	78.9	113.5				
Chromium	107	1.0	119.3	0	**90**	73.5	108.5				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 29** SampType: **Laboratory Control Sample** Lab ID: **LCS-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	106	1.0	110.2	0	96	74.2	105.6				
Copper	123	1.6	139.7	0	88	76.6	108.8				
Lead	101	1.0	107.1	0	94	74.4	108.6				
Manganese	426	2.8	442.7	0	96	81.1	116.6				
Molybdenum	114	1.0	129.5	0	88	66.5	103.1				
Nickel	79.6	1.0	87.92	0	91	72.3	105				
Selenium	190	1.0	209.1	0	91	71.2	110.2				
Silver	42.0	1.0	42.94	0	98	70.8	111.9				
Uranium	94.0	1.0	101.9	0	92	80.1	120.1				
Vanadium	104	1.0	116.3	0.7678	89	67	107				
Zinc	243	12	235.6	0	103	75.3	111.7				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 30** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:30** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.1	1.0	47.45	0	105	80	120				
Arsenic	47.2	1.0	47.45	0.1053	99	80	120				
Barium	48.3	1.0	47.45	0	102	80	120				
Beryllium	22.3	1.0	23.72	0	94	80	120				
Boron	50.1	3.3	47.45	0	106	80	120				
Cadmium	24.3	1.0	23.72	0	102	80	120				
Calcium	2180	410	2372	0	92	80	120				
Chromium	47.6	1.0	47.45	0	100	80	120				
Cobalt	47.8	1.0	47.45	0	101	80	120				
Copper	48.6	1.5	47.45	0	102	80	120				
Lead	47.7	1.0	47.45	0	101	80	120				
Manganese	241	2.6	237.2	0	101	80	120				
Molybdenum	47.9	1.0	47.45	0	101	80	120				
Nickel	47.9	1.0	47.45	0	101	80	120				
Selenium	46.9	1.0	47.45	0	99	80	120				
Silver	24.4	1.0	23.72	0	103	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 30** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43229** Method: **SW6020**

Analysis Date: **09/27/18 18:30** Units: **mg/kg** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	47.0	1.0	47.45	0	99	80	120				
Vanadium	47.9	1.0	47.45	0.7678	99	80	120				
Zinc	48.7	11	47.45	0	103	80	120				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 34** SampType: **Serial Dilution** Lab ID: **H18090303-019ADIL** Method: **SW6020**

Analysis Date: **09/27/18 18:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.1		0		0	0	0		10	
Arsenic	25.2	1.2		0		0	0	25.4	0.7	10	
Barium	93.1	5.6		0		0	0	94.05	1.0	10	
Beryllium	ND	1.8		0		0	0	0		10	
Boron	ND	21		0		0	0	0		10	
Cadmium	1.22	1.0		0		0	0	1.238		10	N
Calcium	3460	2600		0		0	0	3350		10	N
Chromium	10.8	3.7		0		0	0	10.64		10	N
Cobalt	ND	5.7		0		0	0	5.186		10	
Copper	134	9.6		0		0	0	134.3	0.0	10	
Lead	90.2	2.2		0		0	0	91.87	1.8	10	
Manganese	1470	17		0		0	0	1494	1.8	10	
Molybdenum	3.55	1.0		0		0	0	3.77		10	N
Nickel	4.28	2.3		0		0	0	4.534		10	N
Selenium	ND	2.1		0		0	0	0		10	
Silver	1.44	1.0		0		0	0	1.462		10	N
Uranium	1.51	1.0		0		0	0	1.505		10	N
Vanadium	35.1	2.2		0		0	0	34.54	1.5	10	
Zinc	580	73		0		0	0	568.2		10	N

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 35** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-019APDS1** Method: **SW6020**

Analysis Date: **09/27/18 18:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	31.2	1.0	30.24	0	**103**	75	125				
Arsenic	54.1	1.0	30.24	25.4	**95**	75	125				
Barium	122	1.1	30.24	94.05	**92**	75	125				
Beryllium	28.8	1.0	30.24	0	**95**	75	125				
Boron	32.0	4.3	30.24	0	**106**	75	125				
Cadmium	31.2	1.0	30.24	1.238	**99**	75	125				
Calcium	3880	530	604.8	3350		75	125				A
Chromium	39.4	1.0	30.24	10.64	**95**	75	125				
Cobalt	34.2	1.1	30.24	5.186	**96**	75	125				
Copper	161	1.9	30.24	134.3		75	125				A
Lead	120	1.0	30.24	91.87	**93**	75	125				
Manganese	1500	3.4	30.24	1494		75	125				A
Molybdenum	32.6	1.0	30.24	3.77	**95**	75	125				
Nickel	33.5	1.0	30.24	4.534	**96**	75	125				
Selenium	29.2	1.0	30.24	0	**97**	75	125				
Silver	13.5	1.0	12.1	1.462	**100**	75	125				
Uranium	30.7	1.0	30.24	1.505	**96**	75	125				
Vanadium	62.2	1.0	30.24	34.54	**91**	75	125				
Zinc	588	15	30.24	568.2		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18090303-019AMS** Method: **SW6020**

Analysis Date: **09/27/18 18:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.2	1.0	59.67	0	**87**	75	125				
Arsenic	87.2	1.0	59.67	25.4	**104**	75	125				
Barium	153	1.1	59.67	94.05	**99**	75	125				
Beryllium	29.0	1.0	29.83	0	**97**	75	125				
Boron	62.4	4.2	59.67	0	**105**	75	125				
Cadmium	31.4	1.0	29.83	1.238	**101**	75	125				
Calcium	5890	520	2983	3350	**85**	75	125				E
Chromium	66.7	1.0	59.67	10.64	**94**	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18090303-019AMS** Method: **SW6020**

Analysis Date: **09/27/18 18:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	63.5	1.1	59.67	5.186	98	75	125				
Copper	169	1.9	59.67	134.3	58	75	125				S
Lead	170	1.0	59.67	91.87	131	75	125				S
Manganese	2150	3.3	298.3	1494		75	125				AE
Molybdenum	60.9	1.0	59.67	3.77	96	75	125				
Nickel	63.6	1.0	59.67	4.534	99	75	125				
Selenium	58.4	1.0	59.67	0	98	75	125				
Silver	31.4	1.0	29.83	1.462	100	75	125				
Uranium	62.2	1.0	59.67	1.505	102	75	125				
Vanadium	85.6	1.0	59.67	34.54	86	75	125				
Zinc	578	14	59.67	568.2		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-019AMSD** Method: **SW6020**

Analysis Date: **09/27/18 18:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.7	1.0	60.17	0	86	75	125	52.21	0.9	20	
Arsenic	93.0	1.0	60.17	25.4	112	75	125	87.2	6.4	20	
Barium	153	1.1	60.17	94.05	99	75	125	153.2	0.1	20	
Beryllium	29.7	1.0	30.08	0	99	75	125	28.96	2.7	20	
Boron	65.3	4.2	60.17	0	109	75	125	62.41	4.5	20	
Cadmium	32.0	1.0	30.08	1.238	102	75	125	31.38	2.0	20	
Calcium	5790	520	3008	3350	81	75	125	5885	1.6	20	E
Chromium	67.3	1.0	60.17	10.64	94	75	125	66.7	1.0	20	
Cobalt	65.5	1.1	60.17	5.186	100	75	125	63.48	3.2	20	
Copper	156	1.9	60.17	134.3	37	75	125	168.7	7.5	20	S
Lead	162	1.0	60.17	91.87	116	75	125	170.1	4.9	20	
Manganese	2230	3.4	300.8	1494		75	125	2146	3.7	20	AE
Molybdenum	62.5	1.0	60.17	3.77	98	75	125	60.86	2.6	20	
Nickel	64.9	1.0	60.17	4.534	100	75	125	63.6	2.1	20	
Selenium	59.6	1.0	60.17	0	99	75	125	58.43	1.9	20	
Silver	32.0	1.0	30.08	1.462	101	75	125	31.37	1.9	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-019AMSD** Method: **SW6020**

Analysis Date: **09/27/18 18:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	60.8	1.0	60.17	1.505	99	75	125	62.23	2.3	20	
Vanadium	88.5	1.0	60.17	34.54	90	75	125	85.59	3.3	20	
Zinc	543	15	60.17	568.2		75	125	577.7	6.2	20	A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 43** SampType: **Serial Dilution** Lab ID: **H18090303-020ADIL** Method: **SW6020**

Analysis Date: **09/27/18 18:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	4.9		0		0	0	0		10	
Arsenic	18.1	1.1		0		0	0	18.36	1.3	10	
Barium	106	5.4		0		0	0	107.8	2.0	10	
Beryllium	ND	1.7		0		0	0	0		10	
Boron	ND	20		0		0	0	0		10	
Cadmium	0.843	1.0		0		0	0	0.8338		10	N
Calcium	2580	2500		0		0	0	2537		10	N
Chromium	4.72	3.5		0		0	0	4.72		10	N
Cobalt	ND	5.5		0		0	0	2.892		10	
Copper	81.8	9.2		0		0	0	82.8		10	N
Lead	69.2	2.1		0		0	0	71.24	2.9	10	
Manganese	1980	16		0		0	0	1969	0.7	10	
Molybdenum	ND	1.0		0		0	0	0.9518		10	
Nickel	3.16	2.2		0		0	0	3.209		10	N
Selenium	ND	2.0		0		0	0	0		10	
Silver	1.54	1.0		0		0	0	1.571		10	N
Uranium	0.939	1.0		0		0	0	0.9547		10	N
Vanadium	13.6	2.1		0		0	0	13.36		10	N
Zinc	303	70		0		0	0	300.5		10	N

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 47** SampType: **Serial Dilution** Lab ID: **H18090303-024ADIL** Method: **SW6020**

Analysis Date: **09/27/18 19:03** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	11		0		0	0	0		10	
Arsenic	108	2.4		0		0	0	112	3.3	10	
Barium	382	12		0		0	0	385	0.8	10	
Beryllium	ND	3.7		0		0	0	0.783		10	
Boron	ND	45		0		0	0	12.64		10	
Cadmium	12.4	1.1		0		0	0	12.14	1.8	10	
Calcium	12100	5500		0		0	0	12350		10	N
Chromium	66.9	7.7		0		0	0	68.95		10	N
Cobalt	14.1	12		0		0	0	14.83		10	N
Copper	1020	20		0		0	0	1092	6.7	10	
Lead	488	4.6		0		0	0	505.9	3.6	10	
Manganese	3580	35		0		0	0	3587	0.1	10	
Molybdenum	14.4	2.1		0		0	0	15.32		10	N
Nickel	33.5	4.8		0		0	0	34.7		10	N
Selenium	ND	4.4		0		0	0	1.871		10	
Silver	7.21	2.2		0		0	0	7.319		10	N
Uranium	12.1	1.2		0		0	0	12.43		10	N
Vanadium	85.3	4.7		0		0	0	85.41	0.2	10	
Zinc	2690	150		0		0	0	2742	1.9	10	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 48** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-020APDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	30.0	1.0	28.91	0	104	75	125				
Arsenic	46.3	1.0	28.91	18.36	97	75	125				
Barium	135	1.1	28.91	107.8	95	75	125				
Beryllium	27.0	1.0	28.91	0	94	75	125				
Boron	28.2	4.1	28.91	0	97	75	125				
Cadmium	29.9	1.0	28.91	0.8338	100	75	125				
Calcium	2990	500	578.2	2537		75	125				A
Chromium	32.5	1.0	28.91	4.72	96	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 48** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-020APDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	31.3	1.1	28.91	2.892	98	75	125				
Copper	110	1.8	28.91	82.8	96	75	125				
Lead	102	1.0	28.91	71.24	107	75	125				
Manganese	1980	3.2	28.91	1969		75	125				A
Molybdenum	29.1	1.0	28.91	0.9518	97	75	125				
Nickel	31.5	1.0	28.91	3.209	98	75	125				
Selenium	28.3	1.0	28.91	0	98	75	125				
Silver	13.4	1.0	11.56	1.571	102	75	125				
Uranium	29.5	1.0	28.91	0.9547	99	75	125				
Vanadium	40.5	1.0	28.91	13.36	94	75	125				
Zinc	327	14	28.91	300.5		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 49** SampType: **Sample Matrix Spike** Lab ID: **H18090303-020AMS** Method: **SW6020**

Analysis Date: **09/27/18 19:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.7	1.0	57.22	0	89	75	125				
Arsenic	95.3	1.0	57.22	18.36	134	75	125				S
Barium	133	1.1	57.22	107.8	45	75	125				S
Beryllium	27.7	1.0	28.61	0	97	75	125				
Boron	58.4	4.0	57.22	0	102	75	125				
Cadmium	29.6	1.0	28.61	0.8338	101	75	125				
Calcium	5750	500	2861	2537	112	75	125				E
Chromium	62.4	1.0	57.22	4.72	101	75	125				
Cobalt	59.1	1.1	57.22	2.892	98	75	125				
Copper	173	1.8	57.22	82.8	158	75	125				S
Lead	118	1.0	57.22	71.24	82	75	125				
Manganese	1670	3.2	286.1	1969		75	125				AE
Molybdenum	57.4	1.0	57.22	0.9518	99	75	125				
Nickel	58.7	1.0	57.22	3.209	97	75	125				
Selenium	54.7	1.0	57.22	0	96	75	125				
Silver	31.8	1.0	28.61	1.571	106	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 49** SampType: **Sample Matrix Spike** Lab ID: **H18090303-020AMS** Method: **SW6020**

Analysis Date: **09/27/18 19:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	56.1	1.0	57.22	0.9547	96	75	125				
Vanadium	69.4	1.0	57.22	13.36	98	75	125				
Zinc	510	14	57.22	300.5		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-020AMSD** Method: **SW6020**

Analysis Date: **09/27/18 19:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.5	1.0	57.28	0	92	75	125	50.73	3.5	20	
Arsenic	80.9	1.0	57.28	18.36	109	75	125	95.27	16	20	
Barium	133	1.1	57.28	107.8	44	75	125	133.4	0.1	20	S
Beryllium	26.7	1.0	28.64	0	93	75	125	27.73	4.0	20	
Boron	57.9	4.0	57.28	0	101	75	125	58.37	0.9	20	
Cadmium	30.8	1.0	28.64	0.8338	105	75	125	29.65	4.0	20	
Calcium	4570	500	2864	2537	71	75	125	5751	23	20	SRE
Chromium	64.1	1.0	57.28	4.72	104	75	125	62.37	2.7	20	
Cobalt	62.2	1.1	57.28	2.892	103	75	125	59.05	5.1	20	
Copper	172	1.8	57.28	82.8	156	75	125	173.5	0.8	20	S
Lead	157	1.0	57.28	71.24	149	75	125	118.2	28	20	SR
Manganese	1400	3.2	286.4	1969		75	125	1667	18	20	AE
Molybdenum	61.0	1.0	57.28	0.9518	105	75	125	57.39	6.1	20	
Nickel	62.3	1.0	57.28	3.209	103	75	125	58.71	5.9	20	
Selenium	54.8	1.0	57.28	0	96	75	125	54.73	0.2	20	
Silver	31.0	1.0	28.64	1.571	103	75	125	31.79	2.4	20	
Uranium	57.8	1.0	57.28	0.9547	99	75	125	56.11	3.0	20	
Vanadium	75.3	1.0	57.28	13.36	108	75	125	69.35	8.3	20	
Zinc	372	14	57.28	300.5		75	125	509.9	31	20	AR

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 51** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-024APDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	66.1	2.1	63.26	0	105	75	125				
Arsenic	170	1.0	63.26	112	92	75	125				
Barium	445	2.3	63.26	385		75	125				A
Beryllium	57.9	1.0	63.26	0.783	90	75	125				
Boron	78.2	8.9	63.26	12.64	104	75	125				
Cadmium	74.5	1.0	63.26	12.14	99	75	125				
Calcium	13300	1100	1265	12350		75	125				A
Chromium	128	1.5	63.26	68.95	93	75	125				
Cobalt	75.7	2.4	63.26	14.83	96	75	125				
Copper	1110	4.0	63.26	1092		75	125				A
Lead	555	1.0	63.26	505.9		75	125				A
Manganese	3580	7.1	63.26	3587		75	125				A
Molybdenum	75.9	1.0	63.26	15.32	96	75	125				
Nickel	95.7	1.0	63.26	34.7	96	75	125				
Selenium	62.8	1.0	63.26	1.871	96	75	125				
Silver	32.5	1.0	25.3	7.319	100	75	125				
Uranium	74.8	1.0	63.26	12.43	99	75	125				
Vanadium	144	1.0	63.26	85.41	92	75	125				
Zinc	2710	31	63.26	2742		75	125				A

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 52** SampType: **Sample Matrix Spike** Lab ID: **H18090303-024AMS** Method: **SW6020**

Analysis Date: **09/27/18 19:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.5	2.1	123.2	0	39	75	125				S
Arsenic	228	1.0	123.2	112	94	75	125				
Barium	505	2.3	123.2	385	98	75	125				
Beryllium	58.4	1.0	61.59	0.783	94	75	125				
Boron	137	8.7	123.2	12.64	101	75	125				
Cadmium	74.7	1.0	61.59	12.14	102	75	125				
Calcium	18000	1100	6159	12350	91	75	125				E
Chromium	197	1.5	123.2	68.95	104	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 52** SampType: **Sample Matrix Spike** Lab ID: **H18090303-024AMS** Method: **SW6020**

Analysis Date: **09/27/18 19:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	139	2.3	123.2	14.83	100	75	125				
Copper	1190	3.9	123.2	1092		75	125				A
Lead	607	1.0	123.2	505.9		75	125				A
Manganese	4210	6.9	615.9	3587		75	125				AE
Molybdenum	135	1.0	123.2	15.32	97	75	125				
Nickel	163	1.0	123.2	34.7	104	75	125				
Selenium	121	1.0	123.2	1.871	97	75	125				
Silver	70.5	1.0	61.59	7.319	103	75	125				
Uranium	135	1.0	123.2	12.43	99	75	125				
Vanadium	206	1.0	123.2	85.41	98	75	125				
Zinc	2780	30	123.2	2742		75	125				AE

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 53** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-024AMSD** Method: **SW6020**

Analysis Date: **09/27/18 19:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	56.5	2.2	128.2	0	44	75	125	48.53	15	20	S
Arsenic	240	1.0	128.2	112	100	75	125	227.8	5.1	20	
Barium	498	2.4	128.2	385	88	75	125	505.2	1.4	20	
Beryllium	62.0	1.0	64.12	0.783	95	75	125	58.42	5.9	20	
Boron	146	9.0	128.2	12.64	104	75	125	136.6	6.3	20	
Cadmium	80.5	1.0	64.12	12.14	107	75	125	74.68	7.6	20	
Calcium	17700	1100	6412	12350	84	75	125	17950	1.4	20	E
Chromium	216	1.6	128.2	68.95	114	75	125	197.3	8.9	20	
Cobalt	150	2.4	128.2	14.83	105	75	125	138.6	7.8	20	
Copper	1210	4.1	128.2	1092		75	125	1189	2.0	20	A
Lead	671	1.0	128.2	505.9	129	75	125	607.1	10	20	S
Manganese	4640	7.2	641.2	3587		75	125	4206	9.7	20	AE
Molybdenum	145	1.0	128.2	15.32	101	75	125	134.7	7.7	20	
Nickel	178	1.0	128.2	34.7	112	75	125	162.6	9.0	20	
Selenium	131	1.0	128.2	1.871	101	75	125	121.4	7.8	20	
Silver	76.1	1.0	64.12	7.319	107	75	125	70.51	7.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 53** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-024AMSD** Method: **SW6020**

Analysis Date: **09/27/18 19:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	148	1.0	128.2	12.43	106	75	125	134.5	9.8	20	
Vanadium	215	1.0	128.2	85.41	101	75	125	205.6	4.4	20	
Zinc	2770	31	128.2	2742		75	125	2776	0.2	20	AE

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 64** SampType: **Serial Dilution** Lab ID: **H18090313-001CDIL** Method: **SW6020**

Analysis Date: **09/27/18 19:36** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	4.5		0		0	0	1.864		10	
Arsenic	7.63	1.0		0		0	0	7.934		10	N
Barium	676	4.9		0		0	0	728.2	7.4	10	
Beryllium	ND	1.6		0		0	0	0.3937		10	
Boron	ND	19		0		0	0	17.54		10	
Cadmium	ND	1.0		0		0	0	0.3386		10	
Calcium	16100	2300		0		0	0	16620		10	N
Chromium	17.8	3.2		0		0	0	18.56		10	N
Cobalt	6.69	5.0		0		0	0	7.043		10	N
Copper	51.9	8.4		0		0	0	53.51		10	N
Lead	93.8	1.9		0		0	0	97.8	4.2	10	
Manganese	348	15		0		0	0	369.1	5.9	10	
Molybdenum	2.70	1.0		0		0	0	2.943		10	N
Nickel	17.5	2.0		0		0	0	18.31		10	N
Selenium	ND	1.8		0		0	0	0		10	
Silver	ND	1.0		0		0	0	0		10	
Uranium	1.12	1.0		0		0	0	1.159		10	N
Vanadium	23.3	2.0		0		0	0	23.83	2.3	10	
Zinc	87.2	64		0		0	0	87.56		10	N

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 67** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090313-001CPDS1** Method: **SW6020**

Analysis Date: **09/27/18 19:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	29.2	1.0	26.52	1.864	103	75	125				
Arsenic	33.3	1.0	26.52	7.934	96	75	125				
Barium	763	1.0	26.52	728.2		75	125				A
Beryllium	24.6	1.0	26.52	0.3937	91	75	125				
Boron	42.7	3.7	26.52	17.54	95	75	125				
Cadmium	27.0	1.0	26.52	0.3386	100	75	125				
Calcium	16800	460	530.3	16620		75	125				A
Chromium	43.3	1.0	26.52	18.56	93	75	125				
Cobalt	32.3	1.0	26.52	7.043	95	75	125				
Copper	77.3	1.7	26.52	53.51	90	75	125				
Lead	123	1.0	26.52	97.8	93	75	125				
Manganese	381	3.0	26.52	369.1		75	125				A
Molybdenum	29.1	1.0	26.52	2.943	99	75	125				
Nickel	43.3	1.0	26.52	18.31	94	75	125				
Selenium	25.8	1.0	26.52	0	97	75	125				
Silver	11.0	1.0	10.61	0	103	75	125				
Uranium	27.8	1.0	26.52	1.159	101	75	125				
Vanadium	48.0	1.0	26.52	23.83	91	75	125				
Zinc	110	13	26.52	87.56	84	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 68** SampType: **Sample Matrix Spike** Lab ID: **H18090313-001CMS** Method: **SW6020**

Analysis Date: **09/27/18 19:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	26.3	1.0	53.03	1.864	46	75	125				S
Arsenic	59.4	1.0	53.03	7.934	97	75	125				
Barium	796	1.0	53.03	728.2		75	125				A
Beryllium	25.2	1.0	26.52	0.3937	93	75	125				
Boron	70.7	3.7	53.03	17.54	100	75	125				
Cadmium	27.1	1.0	26.52	0.3386	101	75	125				
Calcium	20700	460	2652	16620		75	125				AE
Chromium	72.3	1.0	53.03	18.56	101	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limit; N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits; A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 68** SampType: **Sample Matrix Spike** Lab ID: **H18090313-001CMS** Method: **SW6020**

Analysis Date: **09/27/18 19:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	59.4	1.0	53.03	7.043	99	75	125				
Copper	104	1.7	53.03	53.51	95	75	125				
Lead	338	1.0	53.03	97.8	454	75	125				S
Manganese	671	3.0	265.2	369.1	114	75	125				
Molybdenum	55.5	1.0	53.03	2.943	99	75	125				
Nickel	71.3	1.0	53.03	18.31	100	75	125				
Selenium	50.6	1.0	53.03	0	95	75	125				
Silver	27.1	1.0	26.52	0	102	75	125				
Uranium	55.0	1.0	53.03	1.159	102	75	125				
Vanadium	82.0	1.0	53.03	23.83	110	75	125				
Zinc	137	13	53.03	87.56	93	75	125				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 69** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090313-001CMSD** Method: **SW6020**

Analysis Date: **09/27/18 19:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	28.2	1.0	53.92	1.864	49	75	125	26.33	6.9	20	S
Arsenic	62.8	1.0	53.92	7.934	102	75	125	59.4	5.6	20	
Barium	717	1.0	53.92	728.2		75	125	796	11	20	A
Beryllium	26.1	1.0	26.96	0.3937	95	75	125	25.16	3.7	20	
Boron	74.5	3.8	53.92	17.54	106	75	125	70.75	5.1	20	
Cadmium	27.6	1.0	26.96	0.3386	101	75	125	27.13	1.8	20	
Calcium	19200	470	2696	16620		75	125	20690	7.4	20	AE
Chromium	75.1	1.0	53.92	18.56	105	75	125	72.29	3.8	20	
Cobalt	61.6	1.0	53.92	7.043	101	75	125	59.4	3.7	20	
Copper	113	1.7	53.92	53.51	111	75	125	103.9	8.8	20	
Lead	139	1.0	53.92	97.8	77	75	125	338.4	83	20	R
Manganese	632	3.0	269.6	369.1	98	75	125	670.9	5.9	20	
Molybdenum	57.0	1.0	53.92	2.943	100	75	125	55.53	2.7	20	
Nickel	73.1	1.0	53.92	18.31	102	75	125	71.28	2.5	20	
Selenium	52.9	1.0	53.92	0	98	75	125	50.57	4.4	20	
Silver	27.9	1.0	26.96	0	103	75	125	27.07	2.9	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43229

Run ID :Run Order: **ICPMS205-H_180927B: 69** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090313-001CMSD** Method: **SW6020**

Analysis Date: **09/27/18 19:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/25/2018** Prep Method: **SW3050 B**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	56.2	1.0	53.92	1.159	**102**	75	125	55	**2.2**	20	
Vanadium	83.4	1.0	53.92	23.83	**110**	75	125	81.99	**1.6**	20	
Zinc	140	13	53.92	87.56	**98**	75	125	137	**2.5**	20	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43242

Run ID :Run Order: **HGCV201-H_181002A: 10** SampType: **Method Blank** Lab ID: **MB-43242** Method: **SW7471B**
Analysis Date: **10/02/18 13:31** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **HGCV201-H_181002A: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43242** Method: **SW7471B**
Analysis Date: **10/02/18 13:33** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0	101	80	120				

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **HGCV201-H_181002A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43242** Method: **SW7471B**
Analysis Date: **10/02/18 13:35** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.6	0.50	5	0	113	71	126.4				

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **HGCV201-H_181002A: 16** SampType: **Sample Matrix Spike** Lab ID: **H18090303-021AMS** Method: **SW7471B**
Analysis Date: **10/02/18 13:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.5	0.16	0.3191	1.286		80	120				A

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **HGCV201-H_181002A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-021AMSD** Method: **SW7471B**
Analysis Date: **10/02/18 13:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.4	0.50	0.3237	1.286	40	80	120	1.48	4.3	20	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43242

Run ID :Run Order: **HGCV201-H_181002A: 17** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-021AMSD** Method: **SW7471B**

Analysis Date: **10/02/18 13:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **HGCV201-H_181002A: 30** SampType: **Sample Matrix Spike** Lab ID: **H18090303-048AMS** Method: **SW7471B**

Analysis Date: **10/02/18 14:21** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.62	0.15	0.2951	0.3124	**104**	80	120				

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **HGCV201-H_181002A: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-048AMSD** Method: **SW7471B**

Analysis Date: **10/02/18 14:23** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.63	0.15	0.291	0.3124	**110**	80	120	0.6196	**2.2**	20	

Associated samples: **H18090303-018A, H18090303-021A, H18090303-024A, H18090303-027A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43244

Run ID :Run Order: **HGCV201-H_181002A: 38** SampType: **Method Blank** Lab ID: **MB-43244** Method: **SW7471B**
Analysis Date: **10/02/18 14:53** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **HGCV201-H_181002A: 39** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43244** Method: **SW7471B**
Analysis Date: **10/02/18 14:55** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0	99	80	120				

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **HGCV201-H_181002A: 40** SampType: **Laboratory Control Sample** Lab ID: **LCS-43244** Method: **SW7471B**
Analysis Date: **10/02/18 15:00** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.7	0.50	5	0	114	71	126.4				

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **HGCV201-H_181002A: 44** SampType: **Sample Matrix Spike** Lab ID: **H18090303-019AMS** Method: **SW7471B**
Analysis Date: **10/02/18 15:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.1878	0.1269	77	80	120				S

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **HGCV201-H_181002A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-019AMSD** Method: **SW7471B**
Analysis Date: **10/02/18 15:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.51	0.10	0.1953	0.1269	198	80	120	0.2714	62	20	SRE

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43244

Run ID :Run Order: **HGCV201-H_181002A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-019AMSD** Method: **SW7471B**

Analysis Date: **10/02/18 15:10** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **HGCV201-H_181002A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18090303-049AMS** Method: **SW7471B**

Analysis Date: **10/02/18 15:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.37	0.10	0.1787	0.259	64	80	120				S

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **HGCV201-H_181002A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-049AMSD** Method: **SW7471B**

Analysis Date: **10/02/18 15:40** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.32	0.10	0.1862	0.259	32	80	120	0.3732	16	20	S

Associated samples: **H18090303-019A, H18090303-022A, H18090303-025A, H18090303-028A, H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43245

Run ID :Run Order: **HGCV201-H_181002A: 67** SampType: **Method Blank** Lab ID: **MB-43245** Method: **SW7471B**
Analysis Date: **10/02/18 16:01** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.006	0.003									

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 68** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43245** Method: **SW7471B**
Analysis Date: **10/02/18 16:03** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.196	0.005767	101	80	120				

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 69** SampType: **Laboratory Control Sample** Lab ID: **LCS-43245** Method: **SW7471B**
Analysis Date: **10/02/18 16:05** Units: **mg/kg** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.8	0.50	5	0.005767	115	71	126.4				

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 72** SampType: **Sample Matrix Spike** Lab ID: **H18090303-020AMS** Method: **SW7471B**
Analysis Date: **10/02/18 16:11** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.10	0.1779	0.04167	87	80	120				

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 73** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-020AMSD** Method: **SW7471B**
Analysis Date: **10/02/18 16:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.29	0.10	0.1875	0.04167	132	80	120	0.1968	38	20	SR

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43245

Run ID :Run Order: **HGCV201-H_181002A: 73** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-020AMSD** Method: **SW7471B**

Analysis Date: **10/02/18 16:13** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 87** SampType: **Sample Matrix Spike** Lab ID: **H18090303-050AMS** Method: **SW7471B**

Analysis Date: **10/02/18 16:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.22	0.10	0.1769	0.04547	97	80	120				

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-050AMSD** Method: **SW7471B**

Analysis Date: **10/02/18 16:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/1/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.58	0.10	0.1769	0.04547	300	80	120	0.2176	90	20	SRE

Associated samples: **H18090303-020A, H18090303-023A, H18090303-026A, H18090303-029A, H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICP2-HE_181001B: 180** SampType: **Method Blank** Lab ID: **MB-43246** Method: **SW6010B**

Analysis Date: **10/02/18 02:47** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	ND	0.2									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 181** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43246** Method: **SW6010B**

Analysis Date: **10/02/18 02:51** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	254	5.0	250	0	102	80	120				
Boron	48.6	1.0	50	0	97	80	120				
Iron	251	11	250	0	100	80	120				
Manganese	241	1.0	250	0	97	80	120				
Zinc	47.7	1.0	50	0	95	80	120				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 182** SampType: **Laboratory Control Sample** Lab ID: **LCS-43246** Method: **SW6010B**

Analysis Date: **10/02/18 02:54** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9310	10	9830	0	95	46.3	130.2				
Boron	111	1.0	129	0	86	59.5	106.2				
Iron	15000	57	16300	0	92	51.7	131.9				
Manganese	404	1.0	434	0	93	81.1	116.6				
Zinc	238	3.1	231	0	103	75.3	111.7				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICP2-HE_181001B: 192** SampType: **Serial Dilution** Lab ID: **H18090303-045ADIL** Method: **SW6010B**

Analysis Date: **10/02/18 03:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38500	120		0		0	0	35410	8.4	10	
Boron	21.0	11		0		0	0	15.16		10	N
Iron	36300	640		0		0	0	32140	12	10	R
Manganese	2310	9.9		0		0	0	2091	10	10	R
Zinc	924	36		0		0	0	829.1	11	10	R

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 193** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-045APDS** Method: **SW6010B**

Analysis Date: **10/02/18 03:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38400	24	3047	35410		75	125				A
Boron	531	2.3	609.5	15.16	85	75	125				
Iron	34600	130	3047	32140		75	125				A
Manganese	4660	2.0	3047	2091	84	75	125				
Zinc	1340	7.3	609.5	829.1	84	75	125				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 194** SampType: **Sample Matrix Spike** Lab ID: **H18090303-045AMS** Method: **SW6010B**

Analysis Date: **10/02/18 03:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	50600	23	580.1	35410		75	125				A
Boron	120	2.2	116	15.16	91	75	125				
Iron	37900	130	580.1	32140		75	125				A
Manganese	2350	2.0	580.1	2091	45	75	125				S
Zinc	847	7.0	116	829.1		75	125				A

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICP2-HE_181001B: 195** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-045AMSD** Method: **SW6010B**

Analysis Date: **10/02/18 03:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41900	23	597.5	35410		75	125	50590	19	20	A
Boron	125	2.2	119.5	15.16	92	75	125	120.4	3.8	20	
Iron	36900	130	597.5	32140		75	125	37940	2.7	20	A
Manganese	2550	2.0	597.5	2091	77	75	125	2352	8.1	20	
Zinc	912	7.2	119.5	829.1		75	125	847.1	7.4	20	A

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 199** SampType: **Serial Dilution** Lab ID: **H18090303-054ADIL** Method: **SW6010B**

Analysis Date: **10/02/18 03:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45300	110		0		0	0	41850	7.8	10	
Boron	ND	11		0		0	0	9.994		10	
Iron	50000	620		0		0	0	44940	11	10	R
Manganese	1650	9.5		0		0	0	1520	8.4	10	
Zinc	1110	34		0		0	0	996.2	11	10	R

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 200** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-054APDS** Method: **SW6010B**

Analysis Date: **10/02/18 04:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45400	23	2918	41850		75	125				A
Boron	506	2.2	583.7	9.994	85	75	125				
Iron	47300	130	2918	44940		75	125				A
Manganese	4000	2.0	2918	1520	85	75	125				
Zinc	1500	7.0	583.7	996.2	86	75	125				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICP2-HE_181001B: 203** SampType: **Sample Matrix Spike** Lab ID: **H18090303-054AMS** Method: **SW6010B**

Analysis Date: **10/02/18 04:12** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	50700	22	557.9	41850		75	125				A
Boron	113	2.1	111.6	9.994	92	75	125				
Iron	49200	120	557.9	44940		75	125				A
Manganese	2120	1.9	557.9	1520	107	75	125				
Zinc	1130	6.7	111.6	996.2		75	125				A

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICP2-HE_181001B: 204** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-054AMSD** Method: **SW6010B**

Analysis Date: **10/02/18 04:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44700	22	563.4	41850		75	125	50700	13	20	A
Boron	115	2.1	112.7	9.994	93	75	125	112.6	2.2	20	
Iron	43900	120	563.4	44940		75	125	49230	12	20	A
Manganese	2020	1.9	563.4	1520	88	75	125	2117	4.9	20	
Zinc	1100	6.8	112.7	996.2		75	125	1133	3.0	20	A

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICPMS205-H_180928B: 17** SampType: **Method Blank** Lab ID: **MB-43246** Method: **SW6020**

Analysis Date: **09/28/18 11:59** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	0.05	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	80									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Copper	ND	0.3									
Lead	0.1	0.07									
Molybdenum	ND	0.03									
Nickel	ND	0.07									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									
Vanadium	0.2	0.07									
Zinc	ND	2									

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 22** SampType: **Serial Dilution** Lab ID: **H18090553-003ADIL** Method: **SW6020**

Analysis Date: **09/28/18 12:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	4.5		0		0	0	0		10	
Arsenic	ND	1.0		0		0	0	1.074		10	
Barium	67.5	4.9		0		0	0	70.17	3.9	10	
Beryllium	ND	1.5		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0		10	
Calcium	8050	2300		0		0	0	8297		10	N
Chromium	12.1	3.2		0		0	0	12.64		10	N
Cobalt	ND	4.9		0		0	0	4.157		10	
Copper	9.47	8.3		0		0	0	9.933		10	N
Lead	3.34	1.9		0		0	0	3.641		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICPMS205-H_180928B: 22** SampType: **Serial Dilution** Lab ID: **H18090553-003ADIL** Method: **SW6020**

Analysis Date: **09/28/18 12:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	1.0		0		0	0	0.2206		10	
Nickel	8.24	2.0		0		0	0	8.722		10	N
Selenium	ND	1.8		0		0	0	0		10	
Silver	ND	1.0		0		0	0	0		10	
Uranium	ND	1.0		0		0	0	0.3179		10	
Vanadium	18.1	1.9		0		0	0	22.33		10	N
Zinc	ND	63		0		0	0	22.17		10	

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 23** SampType: **Laboratory Control Sample** Lab ID: **LCS-43246** Method: **SW6020**

Analysis Date: **09/28/18 12:11** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	71.1	1.0	240	0	30	0	92.9				
Arsenic	174	1.0	196	0.05322	89	71.4	105.1				
Barium	178	1.0	187	0	95	78.6	112.8				
Beryllium	75.6	1.0	83.6	0	90	76.2	108				
Cadmium	96.6	1.0	99	0	98	73.9	106.1				
Calcium	6040	450	6360	0	95	78.9	113.5				
Chromium	111	1.0	117	0	95	73.5	108.5				
Cobalt	110	1.0	108	0	102	74.2	105.6				
Copper	128	1.7	137	0	93	76.6	108.8				
Lead	99.6	1.0	105	0.1186	95	74.4	108.6				
Molybdenum	118	1.0	127	0	93	66.5	103.1				
Nickel	82.8	1.0	86.2	0	96	72.3	105				
Selenium	193	1.0	205	0	94	71.2	110.2				
Silver	42.7	1.0	42.1	0	101	70.8	111.9				
Uranium	94.5	1.0	99.9	0	95	80.1	120.1				
Vanadium	110	1.0	114	0.2049	96	67	107				
Zinc	249	13	231	0	108	75.3	111.7				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICPMS205-H_180928B: 26** SampType: **Sample Matrix Spike** Lab ID: **H18090553-003AMS** Method: **SW6020**

Analysis Date: **09/28/18 12:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.8	1.0	57.17	0	84	75	125				
Arsenic	59.5	1.0	57.17	1.074	102	75	125				
Barium	138	1.1	57.17	70.17	118	75	125				
Beryllium	27.4	1.0	28.59	0	96	75	125				
Cadmium	29.9	1.0	28.59	0	105	75	125				
Calcium	18000	500	2859	8297	340	75	125				SE
Chromium	70.0	1.0	57.17	12.64	100	75	125				
Cobalt	63.2	1.1	57.17	4.157	103	75	125				
Copper	67.3	1.8	57.17	9.933	100	75	125				
Lead	62.9	1.0	57.17	3.641	104	75	125				
Molybdenum	59.4	1.0	57.17	0.2206	104	75	125				
Nickel	66.8	1.0	57.17	8.722	102	75	125				
Selenium	55.1	1.0	57.17	0	96	75	125				
Silver	30.6	1.0	28.59	0	107	75	125				
Uranium	58.1	1.0	57.17	0.3179	101	75	125				
Vanadium	82.8	1.0	57.17	22.33	106	75	125				
Zinc	81.6	14	57.17	22.17	104	75	125				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090553-003AMSD** Method: **SW6020**

Analysis Date: **09/28/18 12:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	43.4	1.0	53.82	0	81	75	125	47.84	9.7	20	
Arsenic	55.2	1.0	53.82	1.074	101	75	125	59.46	7.4	20	
Barium	137	1.0	53.82	70.17	124	75	125	137.9	0.7	20	
Beryllium	26.0	1.0	26.91	0	97	75	125	27.38	5.2	20	
Cadmium	27.2	1.0	26.91	0	101	75	125	29.9	9.6	20	
Calcium	11600	470	2691	8297	124	75	125	18020	43	20	RE
Chromium	67.4	1.0	53.82	12.64	102	75	125	70	3.8	20	
Cobalt	59.7	1.0	53.82	4.157	103	75	125	63.16	5.7	20	
Copper	64.2	1.7	53.82	9.933	101	75	125	67.32	4.8	20	
Lead	57.4	1.0	53.82	3.641	100	75	125	62.93	9.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICPMS205-H_180928B: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090553-003AMSD** Method: **SW6020**

Analysis Date: **09/28/18 12:19** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	54.7	1.0	53.82	0.2206	**101**	75	125	59.4	**8.2**	20	
Nickel	65.0	1.0	53.82	8.722	**105**	75	125	66.81	**2.7**	20	
Selenium	51.4	1.0	53.82	0	**95**	75	125	55.07	**6.9**	20	
Silver	27.8	1.0	26.91	0	**103**	75	125	30.55	**9.4**	20	
Uranium	52.9	1.0	53.82	0.3179	**98**	75	125	58.09	**9.4**	20	
Vanadium	81.6	1.0	53.82	22.33	**110**	75	125	82.75	**1.4**	20	
Zinc	75.3	13	53.82	22.17	**99**	75	125	81.62	**8.1**	20	

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 47** SampType: **Serial Dilution** Lab ID: **H18090303-045ADIL** Method: **SW6020**

Analysis Date: **09/28/18 12:59** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	10		0		0	0	0		10	
Arsenic	34.5	2.3		0		0	0	34.38	**0.4**	10	
Barium	480	11		0		0	0	490.7	**2.3**	10	
Beryllium	ND	3.5		0		0	0	1.664		10	
Cadmium	3.90	1.1		0		0	0	3.868		10	N
Calcium	13600	5100		0		0	0	13400		10	N
Chromium	30.8	7.2		0		0	0	31.21		10	N
Cobalt	13.5	11		0		0	0	13.78		10	N
Copper	329	19		0		0	0	333.4	**1.3**	10	
Lead	108	4.3		0		0	0	114	**5.2**	10	
Molybdenum	ND	2.0		0		0	0	1.518		10	
Nickel	20.2	4.4		0		0	0	20.01		10	N
Selenium	ND	4.1		0		0	0	0		10	
Silver	ND	2.0		0		0	0	1.236		10	
Uranium	2.31	1.2		0		0	0	2.445		10	N
Vanadium	50.2	4.4		0		0	0	57.13	**13**	10	R
Zinc	940	140		0		0	0	927.6		10	N

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43246

Run ID :Run Order: **ICPMS205-H_180928B: 51** SampType: **Serial Dilution** Lab ID: **H18090303-054ADIL** Method: **SW6020**

Analysis Date: **09/28/18 13:07** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	9.6		0		0	0	0		10	
Arsenic	44.4	2.2		0		0	0	44.31	0.1	10	
Barium	479	10		0		0	0	487.3	1.8	10	
Beryllium	ND	3.3		0		0	0	1.554		10	
Cadmium	4.18	1.0		0		0	0	4.163		10	N
Calcium	14700	4900		0		0	0	15030		10	N
Chromium	46.2	6.9		0		0	0	46.99		10	N
Cobalt	17.5	11		0		0	0	17.59		10	N
Copper	668	18		0		0	0	691.6	3.5	10	
Lead	141	4.1		0		0	0	146.5	3.9	10	
Molybdenum	ND	1.9		0		0	0	1.767		10	
Nickel	27.5	4.3		0		0	0	27.55		10	N
Selenium	ND	3.9		0		0	0	0		10	
Silver	ND	1.9		0		0	0	1.975		10	
Uranium	4.29	1.1		0		0	0	4.449		10	N
Vanadium	110	4.2		0		0	0	116.2	5.5	10	
Zinc	1120	140		0		0	0	1090		10	N

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 55** SampType: **Sample Matrix Spike** Lab ID: **H18090303-045AMS** Method: **SW6020**

Analysis Date: **09/28/18 13:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.9	2.0	116	0	40	75	125				S
Arsenic	157	1.0	116	34.38	106	75	125				
Barium	998	2.2	116	490.7		75	125				A
Beryllium	53.4	1.0	58.01	1.664	89	75	125				
Cadmium	63.0	1.0	58.01	3.868	102	75	125				
Calcium	22200	1000	5801	13400	151	75	125				SE
Chromium	160	1.4	116	31.21	111	75	125				
Cobalt	137	2.2	116	13.78	106	75	125				
Copper	378	3.7	116	333.4	38	75	125				S
Lead	224	1.0	116	114	95	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43246

Run ID :Run Order: **ICPMS205-H_180928B: 55** SampType: **Sample Matrix Spike** Lab ID: **H18090303-045AMS** Method: **SW6020**

Analysis Date: **09/28/18 13:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	110	1.0	116	1.518	94	75	125				
Nickel	147	1.0	116	20.01	109	75	125				
Selenium	110	1.0	116	0	95	75	125				
Silver	62.7	1.0	58.01	1.236	106	75	125				
Uranium	118	1.0	116	2.445	100	75	125				
Vanadium	198	1.0	116	57.13	121	75	125				
Zinc	975	28	116	927.6		75	125				A

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-045AMSD** Method: **SW6020**

Analysis Date: **09/28/18 13:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.7	2.0	119.5	0	40	75	125	46.9	1.6	20	S
Arsenic	150	1.0	119.5	34.38	97	75	125	156.9	4.5	20	
Barium	577	2.2	119.5	490.7		75	125	997.9	53	20	AR
Beryllium	56.0	1.0	59.75	1.664	91	75	125	53.42	4.6	20	
Cadmium	62.8	1.0	59.75	3.868	99	75	125	63.03	0.3	20	
Calcium	17900	1000	5975	13400	76	75	125	22160	21	20	RE
Chromium	152	1.4	119.5	31.21	101	75	125	160.4	5.7	20	
Cobalt	135	2.2	119.5	13.78	102	75	125	136.8	1.2	20	
Copper	443	3.8	119.5	333.4	92	75	125	377.8	16	20	
Lead	232	1.0	119.5	114	99	75	125	224	3.6	20	
Molybdenum	111	1.0	119.5	1.518	91	75	125	110.2	0.4	20	
Nickel	141	1.0	119.5	20.01	102	75	125	146.9	3.8	20	
Selenium	113	1.0	119.5	0	95	75	125	110	2.7	20	
Silver	61.8	1.0	59.75	1.236	101	75	125	62.67	1.4	20	
Uranium	116	1.0	119.5	2.445	95	75	125	118.2	1.9	20	
Vanadium	188	1.0	119.5	57.13	110	75	125	197.6	4.7	20	
Zinc	1010	29	119.5	927.6		75	125	974.9	3.3	20	A

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 141** SampType: **Method Blank** Lab ID: **MB-43247** Method: **SW6010B**

Analysis Date: **10/02/18 00:20** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	ND	0.2									
Copper	ND	0.6									
Iron	20	10									
Manganese	ND	0.2									
Vanadium	ND	0.3									
Zinc	ND	0.6									

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 142** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43247** Method: **SW6010B**

Analysis Date: **10/02/18 00:24** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	254	5.0	252.5	0	**101**	80	120				
Boron	47.1	1.0	50.5	0	**93**	80	120				
Copper	49.5	1.0	50.5	0	**98**	80	120				
Iron	315	11	252.5	17.06	**118**	80	120				
Manganese	239	1.0	252.5	0	**94**	80	120				
Vanadium	48.8	1.0	50.5	0	**97**	80	120				
Zinc	46.2	1.0	50.5	0	**92**	80	120				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 143** SampType: **Laboratory Control Sample** Lab ID: **LCS-43247** Method: **SW6010B**

Analysis Date: **10/02/18 00:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9140	9.6	9830	0	**93**	46.3	130.2				
Boron	104	1.0	129	0	**81**	59.5	106.2				
Copper	119	2.7	137	0	**87**	76.6	108.8				
Iron	14600	53	16300	17.06	**90**	51.7	131.9				
Manganese	389	1.0	434	0	**90**	81.1	116.6				
Vanadium	103	1.3	114	0	**90**	67	107				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 143** SampType: **Laboratory Control Sample** Lab ID: **LCS-43247** Method: **SW6010B**

Analysis Date: **10/02/18 00:28** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	223	2.9	231	0	96	75.3	111.7				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 151** SampType: **Serial Dilution** Lab ID: **H18090303-040ADIL** Method: **SW6010B**

Analysis Date: **10/02/18 00:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5090	65		0		0	0	5012	1.5	10	
Boron	ND	6.2		0		0	0	0		10	
Copper	27.8	18		0		0	0	20.44		10	N
Iron	6620	360		0		0	0	6498	1.9	10	
Manganese	425	5.6		0		0	0	419.1	1.5	10	
Vanadium	14.7	8.7		0		0	0	13.62		10	N
Zinc	102	20		0		0	0	100.7		10	N

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 152** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-040APDS** Method: **SW6010B**

Analysis Date: **10/02/18 01:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6720	13	1713	5012	100	75	125				
Boron	302	1.3	342.5	0	88	75	125				
Copper	341	3.8	342.5	20.44	93	75	125				
Iron	8000	74	1713	6498	88	75	125				
Manganese	1970	1.2	1713	419.1	91	75	125				
Vanadium	329	1.8	342.5	13.62	92	75	125				
Zinc	400	4.1	342.5	100.7	87	75	125				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 153** SampType: **Sample Matrix Spike** Lab ID: **H18090303-040AMS** Method: **SW6010B**

Analysis Date: **10/02/18 01:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7080	13	329.3	5012		75	125				A
Boron	62.6	1.2	65.86	0	95	75	125				
Copper	88.6	3.6	65.86	20.44	103	75	125				
Iron	7660	72	329.3	6498		75	125				A
Manganese	787	1.1	329.3	419.1	112	75	125				
Vanadium	80.9	1.7	65.86	13.62	102	75	125				
Zinc	206	4.0	65.86	100.7	159	75	125				S

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181001B: 154** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-040AMSD** Method: **SW6010B**

Analysis Date: **10/02/18 01:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6500	13	335.8	5012		75	125	7083	8.6	20	A
Boron	61.8	1.3	67.16	0	92	75	125	62.59	1.3	20	
Copper	85.7	3.7	67.16	20.44	97	75	125	88.56	3.3	20	
Iron	6980	73	335.8	6498		75	125	7660	9.3	20	A
Manganese	749	1.1	335.8	419.1	98	75	125	787.3	5.0	20	
Vanadium	78.8	1.8	67.16	13.62	97	75	125	80.89	2.6	20	
Zinc	167	4.0	67.16	100.7	98	75	125	205.6	21	20	R

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181001B: 157** SampType: **Serial Dilution** Lab ID: **H18090303-046ADIL** Method: **SW6010B**

Analysis Date: **10/02/18 01:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4010	60		0		0	0	3883	3.3	10	
Boron	ND	5.7		0		0	0	0		10	
Copper	143	17		0		0	0	131.9		10	N
Iron	18200	330		0		0	0	17310	5.0	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 157** SampType: **Serial Dilution** Lab ID: **H18090303-046ADIL** Method: **SW6010B**

Analysis Date: **10/02/18 01:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	584	5.1		0		0	0	568.2	**2.7**	10	
Vanadium	45.6	8.0		0		0	0	44.55		10	N
Zinc	1260	18		0		0	0	1241	**1.4**	10	

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 160** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-046APDS** Method: **SW6010B**

Analysis Date: **10/02/18 01:32** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5540	12	1571	3883	**105**	75	125				
Boron	275	1.2	314.2	0	**87**	75	125				
Copper	430	3.5	314.2	131.9	**95**	75	125				
Iron	18800	68	1571	17310		75	125				A
Manganese	1990	1.1	1571	568.2	**91**	75	125				
Vanadium	334	1.6	314.2	44.55	**92**	75	125				
Zinc	1520	3.8	314.2	1241	**88**	75	125				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 161** SampType: **Sample Matrix Spike** Lab ID: **H18090303-046AMS** Method: **SW6010B**

Analysis Date: **10/02/18 01:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5560	12	307.9	3883		75	125				A
Boron	58.8	1.2	61.58	0	**95**	75	125				
Copper	232	3.4	61.58	131.9	**163**	75	125				S
Iron	18200	67	307.9	17310		75	125				A
Manganese	779	1.0	307.9	568.2	**69**	75	125				S
Vanadium	103	1.6	61.58	44.55	**95**	75	125				
Zinc	528	3.7	61.58	1241		75	125				A

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICP2-HE_181001B: 162** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-046AMSD** Method: **SW6010B**

Analysis Date: **10/02/18 01:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5470	12	312.3	3883		75	125	5562	1.6	20	A
Boron	58.6	1.2	62.45	0	94	75	125	58.79	0.4	20	
Copper	201	3.4	62.45	131.9	111	75	125	232.4	14	20	
Iron	19700	68	312.3	17310		75	125	18250	7.9	20	A
Manganese	1190	1.0	312.3	568.2	201	75	125	779.3	42	20	SR
Vanadium	115	1.6	62.45	44.55	113	75	125	103	11	20	
Zinc	698	3.8	62.45	1241		75	125	528	28	20	AR

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 56** SampType: **Method Blank** Lab ID: **MB-43247** Method: **SW6020**

Analysis Date: **10/01/18 16:23** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	0.06	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.08									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	ND	0.04									
Uranium	ND	0.02									

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 61** SampType: **Serial Dilution** Lab ID: **H18090303-040ADIL** Method: **SW6020**

Analysis Date: **10/01/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.6		0		0	0	0		10	
Arsenic	5.80	1.3		0		0	0	5.754		10	N
Barium	137	6.2		0		0	0	135.7	0.7	10	
Beryllium	ND	2.0		0		0	0	0		10	
Cadmium	0.681	1.0		0		0	0	0.6704		10	N
Calcium	ND	2900		0		0	0	1838		10	
Chromium	10.00	4.0		0		0	0	9.71		10	N
Cobalt	ND	6.3		0		0	0	2.92		10	
Lead	11.2	2.4		0		0	0	11.47		10	N
Molybdenum	ND	1.1		0		0	0	0		10	
Nickel	5.53	2.5		0		0	0	5.657		10	N
Selenium	ND	2.3		0		0	0	0		10	
Silver	ND	1.1		0		0	0	0		10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 61** SampType: **Serial Dilution** Lab ID: **H18090303-040ADIL** Method: **SW6020**

Analysis Date: **10/01/18 16:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.704	1.0		0		0	0	0.715		10	N

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 62** SampType: **Laboratory Control Sample** Lab ID: **LCS-43247** Method: **SW6020**

Analysis Date: **10/01/18 16:35** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	71.1	1.0	240	0	30	0	92.9				
Arsenic	170	1.0	196	0.05736	87	71.4	105.1				
Barium	183	1.0	187	0	98	78.6	112.8				
Beryllium	76.5	1.0	83.6	0	92	76.2	108				
Cadmium	97.9	1.0	99	0	99	73.9	106.1				
Calcium	6120	430	6360	0	96	78.9	113.5				
Chromium	109	1.0	117	0	93	73.5	108.5				
Cobalt	112	1.0	108	0	103	74.2	105.6				
Lead	107	1.0	105	0	102	74.4	108.6				
Molybdenum	117	1.0	127	0	92	66.5	103.1				
Nickel	83.0	1.0	86.2	0	96	72.3	105				
Selenium	195	1.0	205	0	95	71.2	110.2				
Silver	41.8	1.0	42.1	0	99	70.8	111.9				
Uranium	101	1.0	99.9	0	101	80.1	120.1				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 63** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43247** Method: **SW6020**

Analysis Date: **10/01/18 16:37** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	53.8	1.0	50.5	0	107	80	120				
Arsenic	51.0	1.0	50.5	0.05736	101	80	120				
Barium	52.7	1.0	50.5	0	104	80	120				
Beryllium	24.6	1.0	25.25	0	97	80	120				
Cadmium	26.2	1.0	25.25	0	104	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 63** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43247** Method: **SW6020**

Analysis Date: **10/01/18 16:37** Units: **mg/kg** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	2490	440	2525	0	98	80	120				
Chromium	50.8	1.0	50.5	0	101	80	120				
Cobalt	52.4	1.0	50.5	0	104	80	120				
Lead	52.2	1.0	50.5	0	103	80	120				
Molybdenum	51.4	1.0	50.5	0	102	80	120				
Nickel	52.8	1.0	50.5	0	104	80	120				
Selenium	50.4	1.0	50.5	0	100	80	120				
Silver	26.3	1.0	25.25	0	104	80	120				
Uranium	51.2	1.0	50.5	0	101	80	120				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 64** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-040APDS1** Method: **SW6020**

Analysis Date: **10/01/18 16:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	35.1	1.1	33.25	0	106	75	125				
Arsenic	38.9	1.0	33.25	5.754	100	75	125				
Barium	173	1.2	33.25	135.7		75	125				A
Beryllium	32.3	1.0	33.25	0	97	75	125				
Cadmium	34.9	1.0	33.25	0.6704	103	75	125				
Calcium	2460	580	665.1	1838	94	75	125				
Chromium	42.1	1.0	33.25	9.71	97	75	125				
Cobalt	36.3	1.3	33.25	2.92	100	75	125				
Lead	44.0	1.0	33.25	11.47	98	75	125				
Molybdenum	33.1	1.0	33.25	0	100	75	125				
Nickel	39.2	1.0	33.25	5.657	101	75	125				
Selenium	33.0	1.0	33.25	0	99	75	125				
Silver	13.9	1.0	13.3	0	105	75	125				
Uranium	34.9	1.0	33.25	0.715	103	75	125				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 65** SampType: **Sample Matrix Spike** Lab ID: **H18090303-040AMS** Method: **SW6020**

Analysis Date: **10/01/18 16:40** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.3	1.1	65.86	0	78	75	125				
Arsenic	72.5	1.0	65.86	5.754	101	75	125				
Barium	217	1.2	65.86	135.7	124	75	125				
Beryllium	32.2	1.0	32.93	0	98	75	125				
Cadmium	34.6	1.0	32.93	0.6704	103	75	125				
Calcium	5310	580	3293	1838	106	75	125				E
Chromium	76.7	1.0	65.86	9.71	102	75	125				
Cobalt	70.8	1.2	65.86	2.92	103	75	125				
Lead	82.5	1.0	65.86	11.47	108	75	125				
Molybdenum	66.8	1.0	65.86	0	101	75	125				
Nickel	74.2	1.0	65.86	5.657	104	75	125				
Selenium	65.9	1.0	65.86	0	100	75	125				
Silver	34.5	1.0	32.93	0	105	75	125				
Uranium	70.3	1.0	65.86	0.715	106	75	125				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-040AMSD** Method: **SW6020**

Analysis Date: **10/01/18 16:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	51.6	1.1	67.16	0	77	75	125	51.28	0.7	20	
Arsenic	73.2	1.0	67.16	5.754	100	75	125	72.53	0.9	20	
Barium	202	1.2	67.16	135.7	99	75	125	217.4	7.2	20	
Beryllium	32.8	1.0	33.58	0	98	75	125	32.24	1.8	20	
Cadmium	34.5	1.0	33.58	0.6704	101	75	125	34.63	0.4	20	
Calcium	5170	580	3358	1838	99	75	125	5313	2.8	20	E
Chromium	77.7	1.0	67.16	9.71	101	75	125	76.7	1.3	20	
Cobalt	72.4	1.3	67.16	2.92	103	75	125	70.81	2.2	20	
Lead	81.0	1.0	67.16	11.47	104	75	125	82.51	1.8	20	
Molybdenum	66.2	1.0	67.16	0	98	75	125	66.78	0.9	20	
Nickel	75.5	1.0	67.16	5.657	104	75	125	74.18	1.7	20	
Selenium	67.7	1.0	67.16	0	101	75	125	65.93	2.7	20	
Silver	34.3	1.0	33.58	0	102	75	125	34.53	0.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-040AMSD** Method: **SW6020**

Analysis Date: **10/01/18 16:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	68.8	1.0	67.16	0.715	101	75	125	70.28	2.1	20	

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 73** SampType: **Serial Dilution** Lab ID: **H18090303-046ADIL** Method: **SW6020**

Analysis Date: **10/01/18 16:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.2		0		0	0	0		10	
Arsenic	26.8	1.2		0		0	0	26.34	1.7	10	
Barium	93.8	5.7		0		0	0	94.57	0.8	10	
Beryllium	ND	1.8		0		0	0	0		10	
Cadmium	6.18	1.0		0		0	0	6.199	0.3	10	
Calcium	ND	2700		0		0	0	1950		10	
Chromium	10.7	3.7		0		0	0	10.37		10	N
Cobalt	ND	5.8		0		0	0	3.567		10	
Lead	364	2.2		0		0	0	377.5	3.6	10	
Molybdenum	ND	1.0		0		0	0	0.8639		10	
Nickel	4.82	2.3		0		0	0	3.805		10	N
Selenium	ND	2.1		0		0	0	0		10	
Silver	1.78	1.0		0		0	0	1.784		10	N
Uranium	1.66	1.0		0		0	0	1.681		10	N

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 74** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-046APDS1** Method: **SW6020**

Analysis Date: **10/01/18 16:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	31.6	1.0	30.51	0	104	75	125				
Arsenic	56.1	1.0	30.51	26.34	98	75	125				
Barium	124	1.1	30.51	94.57	95	75	125				
Beryllium	29.2	1.0	30.51	0	96	75	125				
Cadmium	36.2	1.0	30.51	6.199	98	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 74** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-046APDS1** Method: **SW6020**

Analysis Date: **10/01/18 16:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	2460	530	610.1	1950	**84**	75	125				
Chromium	39.9	1.0	30.51	10.37	**97**	75	125				
Cobalt	34.2	1.2	30.51	3.567	**100**	75	125				
Lead	400	1.0	30.51	377.5		75	125				A
Molybdenum	29.8	1.0	30.51	0.8639	**95**	75	125				
Nickel	34.5	1.0	30.51	3.805	**101**	75	125				
Selenium	29.8	1.0	30.51	0	**98**	75	125				
Silver	14.0	1.0	12.2	1.784	**100**	75	125				
Uranium	33.6	1.0	30.51	1.681	**105**	75	125				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 75** SampType: **Sample Matrix Spike** Lab ID: **H18090303-046AMS** Method: **SW6020**

Analysis Date: **10/01/18 17:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.8	1.0	61.58	0	**83**	75	125				
Arsenic	94.9	1.0	61.58	26.34	**111**	75	125				
Barium	160	1.1	61.58	94.57	**106**	75	125				
Beryllium	30.0	1.0	30.79	0	**97**	75	125				
Cadmium	32.5	1.0	30.79	6.199	**86**	75	125				
Calcium	5470	540	3079	1950	**114**	75	125				E
Chromium	72.7	1.0	61.58	10.37	**101**	75	125				
Cobalt	67.6	1.2	61.58	3.567	**104**	75	125				
Lead	118	1.0	61.58	377.5		75	125				A
Molybdenum	62.5	1.0	61.58	0.8639	**100**	75	125				
Nickel	68.5	1.0	61.58	3.805	**105**	75	125				
Selenium	61.6	1.0	61.58	0	**100**	75	125				
Silver	32.6	1.0	30.79	1.784	**100**	75	125				
Uranium	64.8	1.0	61.58	1.681	**102**	75	125				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43247

Run ID :Run Order: **ICPMS205-H_181001A: 76** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-046AMSD** Method: **SW6020**

Analysis Date: **10/01/18 17:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **9/26/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.0	1.1	62.45	0	80	75	125	50.83	1.7	20	
Arsenic	91.8	1.0	62.45	26.34	105	75	125	94.86	3.2	20	
Barium	175	1.2	62.45	94.57	128	75	125	159.6	9.0	20	S
Beryllium	30.6	1.0	31.23	0	98	75	125	30	1.9	20	
Cadmium	33.6	1.0	31.23	6.199	88	75	125	32.54	3.1	20	
Calcium	5300	540	3123	1950	107	75	125	5472	3.1	20	E
Chromium	73.0	1.0	62.45	10.37	100	75	125	72.67	0.4	20	
Cobalt	67.2	1.2	62.45	3.567	102	75	125	67.56	0.5	20	
Lead	96.1	1.0	62.45	377.5		75	125	118.3	21	20	AR
Molybdenum	64.5	1.0	62.45	0.8639	102	75	125	62.5	3.2	20	
Nickel	68.5	1.0	62.45	3.805	104	75	125	68.48	0.0	20	
Selenium	62.5	1.0	62.45	0	100	75	125	61.56	1.4	20	
Silver	33.6	1.0	31.23	1.784	102	75	125	32.64	2.8	20	
Uranium	64.4	1.0	62.45	1.681	100	75	125	64.78	0.6	20	

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICP2-HE_181004B: 32** SampType: **Method Blank** Lab ID: **MB-43312** Method: **SW6010B**

Analysis Date: **10/04/18 15:31** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Boron	ND	0.2									
Cobalt	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Vanadium	ND	0.3									
Zinc	ND	0.6									

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 33** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43312** Method: **SW6010B**

Analysis Date: **10/04/18 15:35** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	263	5.0	250	0	**105**	80	120				
Boron	48.0	1.0	50	0	**96**	80	120				
Cobalt	48.6	1.0	50	0	**97**	80	120				
Iron	259	11	250	0	**104**	80	120				
Manganese	247	1.0	250	0	**99**	80	120				
Vanadium	50.6	1.0	50	0	**101**	80	120				
Zinc	47.5	1.0	50	0	**95**	80	120				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 34** SampType: **Laboratory Control Sample** Lab ID: **LCS-43312** Method: **SW6010B**

Analysis Date: **10/04/18 15:39** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8940	9.7	9830	0	**91**	46.3	130.2				
Boron	109	1.0	129	0	**85**	59.5	106.2				
Cobalt	104	2.4	108	0	**96**	74.2	105.6				
Iron	14700	54	16300	0	**90**	51.7	131.9				
Manganese	428	1.0	434	0	**99**	81.1	116.6				
Vanadium	106	1.3	114	0	**93**	67	107				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICP2-HE_181004B: 34** SampType: **Laboratory Control Sample** Lab ID: **LCS-43312** Method: **SW6010B**

Analysis Date: **10/04/18 15:39** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	236	3.0	231	0	102	75.3	111.7				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 37** SampType: **Serial Dilution** Lab ID: **H18090303-032ADIL** Method: **SW6010B**

Analysis Date: **10/04/18 15:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3130	46		0		0	0	3001	4.1	10	
Boron	ND	4.4		0		0	0	0		10	
Cobalt	ND	11		0		0	0	0		10	
Iron	4710	260		0		0	0	4471	5.3	10	
Manganese	571	4.0		0		0	0	542.2	5.2	10	
Vanadium	13.9	6.2		0		0	0	9.824		10	N
Zinc	97.9	14		0		0	0	95.17		10	N

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 38** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-032APDS** Method: **SW6010B**

Analysis Date: **10/04/18 15:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4340	9.6	1217	3001	110	75	125				
Boron	215	1.0	243.3	0	89	75	125				
Cobalt	217	2.3	243.3	0	89	75	125				
Iron	5590	53	1217	4471	92	75	125				
Manganese	1630	1.0	1217	542.2	89	75	125				
Vanadium	231	1.3	243.3	9.824	91	75	125				
Zinc	307	2.9	243.3	95.17	87	75	125				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICP2-HE_181004B: 41** SampType: **Sample Matrix Spike** Lab ID: **H18090303-032AMS** Method: **SW6010B**

Analysis Date: **10/04/18 16:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4610	9.2	235	3001		75	125				A
Boron	45.4	1.0	46.99	0	97	75	125				
Cobalt	50.4	2.3	46.99	0	107	75	125				
Iron	5640	51	235	4471		75	125				A
Manganese	799	1.0	235	542.2	109	75	125				
Vanadium	61.0	1.2	46.99	9.824	109	75	125				
Zinc	140	2.8	46.99	95.17	96	75	125				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 42** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-032AMSD** Method: **SW6010B**

Analysis Date: **10/04/18 16:09** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4290	9.1	232.2	3001		75	125	4611	7.1	20	A
Boron	44.5	1.0	46.43	0	96	75	125	45.41	2.0	20	
Cobalt	48.4	2.2	46.43	0	104	75	125	50.4	4.1	20	
Iron	6250	51	232.2	4471		75	125	5641	10	20	A
Manganese	819	1.0	232.2	542.2	119	75	125	799	2.5	20	
Vanadium	60.7	1.2	46.43	9.824	109	75	125	60.99	0.6	20	
Zinc	134	2.8	46.43	95.17	83	75	125	140.3	4.7	20	

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICPMS205-H_181003B: 47** SampType: **Method Blank** Lab ID: **MB-43312** Method: **SW6020**

Analysis Date: **10/03/18 14:01** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	0.05	0.04									
Barium	ND	0.2									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Copper	ND	0.3									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	ND	0.03									
Uranium	ND	0.02									

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 49** SampType: **Serial Dilution** Lab ID: **H18090303-032ADIL** Method: **SW6020**

Analysis Date: **10/03/18 14:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	4.0		0		0	0	0		10	
Arsenic	5.47	1.0		0		0	0	5.551		10	N
Barium	74.6	4.4		0		0	0	75.97	1.8	10	
Beryllium	ND	1.4		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.389		10	
Calcium	ND	2100		0		0	0	1577		10	
Chromium	5.32	2.9		0		0	0	5.329		10	N
Copper	29.9	7.5		0		0	0	29.84		10	N
Lead	6.84	1.7		0		0	0	7.148		10	N
Molybdenum	ND	1.0		0		0	0	0.2614		10	
Nickel	2.53	1.8		0		0	0	2.582		10	N
Selenium	ND	1.6		0		0	0	0		10	
Silver	ND	1.0		0		0	0	0		10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICPMS205-H_181003B: 49** SampType: **Serial Dilution** Lab ID: **H18090303-032ADIL** Method: **SW6020**

Analysis Date: **10/03/18 14:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.531	1.0		0		0	0	0.5575		10	N

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 52** SampType: **Laboratory Control Sample** Lab ID: **LCS-43312** Method: **SW6020**

Analysis Date: **10/03/18 14:11** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	72.6	1.0	240	0	30	0	92.9				
Arsenic	180	1.0	196	0.05265	92	71.4	105.1				
Barium	195	1.0	187	0	104	78.6	112.8				
Beryllium	83.8	1.0	83.6	0	100	76.2	108				
Cadmium	104	1.0	99	0	105	73.9	106.1				
Calcium	6400	430	6360	0	101	78.9	113.5				
Chromium	115	1.0	117	0	98	73.5	108.5				
Copper	139	1.6	137	0	101	76.6	108.8				
Lead	109	1.0	105	0	104	74.4	108.6				
Molybdenum	127	1.0	127	0	100	66.5	103.1				
Nickel	86.8	1.0	86.2	0	101	72.3	105				
Selenium	206	1.0	205	0	101	71.2	110.2				
Silver	44.5	1.0	42.1	0	106	70.8	111.9				
Uranium	101	1.0	99.9	0	101	80.1	120.1				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 53** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43312** Method: **SW6020**

Analysis Date: **10/03/18 14:13** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	55.6	1.0	50	0	111	80	120				
Arsenic	51.5	1.0	50	0.05265	103	80	120				
Barium	53.6	1.0	50	0	107	80	120				
Beryllium	25.7	1.0	25	0	103	80	120				
Cadmium	27.0	1.0	25	0	108	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICPMS205-H_181003B: 53** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-43312** Method: **SW6020**

Analysis Date: **10/03/18 14:13** Units: **mg/kg** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	2510	440	2500	0	101	80	120				
Chromium	51.8	1.0	50	0	104	80	120				
Copper	53.5	1.6	50	0	107	80	120				
Lead	52.3	1.0	50	0	105	80	120				
Molybdenum	53.6	1.0	50	0	107	80	120				
Nickel	52.7	1.0	50	0	105	80	120				
Selenium	50.3	1.0	50	0	101	80	120				
Silver	27.3	1.0	25	0	109	80	120				
Uranium	50.5	1.0	50	0	101	80	120				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 54** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18090303-032APDS1** Method: **SW6020**

Analysis Date: **10/03/18 14:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	25.0	1.0	23.62	0	106	75	125				
Arsenic	29.0	1.0	23.62	5.551	99	75	125				
Barium	99.7	1.0	23.62	75.97	101	75	125				
Beryllium	23.3	1.0	23.62	0	99	75	125				
Cadmium	24.8	1.0	23.62	0.389	103	75	125				
Calcium	2020	410	472.4	1577	93	75	125				
Chromium	28.6	1.0	23.62	5.329	99	75	125				
Copper	53.9	1.5	23.62	29.84	102	75	125				
Lead	31.3	1.0	23.62	7.148	102	75	125				
Molybdenum	24.1	1.0	23.62	0.2614	101	75	125				
Nickel	26.6	1.0	23.62	2.582	102	75	125				
Selenium	23.7	1.0	23.62	0	100	75	125				
Silver	9.97	1.0	9.449	0	105	75	125				
Uranium	25.3	1.0	23.62	0.5575	105	75	125				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICPMS205-H_181003B: 55** SampType: **Sample Matrix Spike** Lab ID: **H18090303-032AMS** Method: **SW6020**

Analysis Date: **10/03/18 14:16** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	40.4	1.0	46.99	0	86	75	125				
Arsenic	52.3	1.0	46.99	5.551	99	75	125				
Barium	155	1.0	46.99	75.97	168	75	125				S
Beryllium	23.4	1.0	23.5	0	100	75	125				
Cadmium	24.9	1.0	23.5	0.389	104	75	125				
Calcium	3900	410	2350	1577	99	75	125				E
Chromium	54.7	1.0	46.99	5.329	105	75	125				
Copper	69.4	1.5	46.99	29.84	84	75	125				
Lead	56.2	1.0	46.99	7.148	104	75	125				
Molybdenum	48.8	1.0	46.99	0.2614	103	75	125				
Nickel	52.6	1.0	46.99	2.582	107	75	125				
Selenium	47.3	1.0	46.99	0	101	75	125				
Silver	24.9	1.0	23.5	0	106	75	125				
Uranium	49.8	1.0	46.99	0.5575	105	75	125				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_181003B: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-032AMSD** Method: **SW6020**

Analysis Date: **10/03/18 14:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	41.3	1.0	46.43	0	89	75	125	40.38	2.2	20	
Arsenic	66.2	1.0	46.43	5.551	131	75	125	52.26	24	20	SR
Barium	121	1.0	46.43	75.97	97	75	125	154.8	25	20	R
Beryllium	23.2	1.0	23.22	0	100	75	125	23.44	1.0	20	
Cadmium	25.1	1.0	23.22	0.389	107	75	125	24.9	0.9	20	
Calcium	4070	400	2322	1577	107	75	125	3901	4.3	20	E
Chromium	54.8	1.0	46.43	5.329	107	75	125	54.75	0.1	20	
Copper	88.8	1.5	46.43	29.84	127	75	125	69.41	24	20	SR
Lead	104	1.0	46.43	7.148	209	75	125	56.2	60	20	SR
Molybdenum	49.8	1.0	46.43	0.2614	107	75	125	48.78	2.1	20	
Nickel	53.0	1.0	46.43	2.582	108	75	125	52.63	0.6	20	
Selenium	46.5	1.0	46.43	0	100	75	125	47.32	1.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: 43312

Run ID :Run Order: **ICPMS205-H_181003B: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-032AMSD** Method: **SW6020**

Analysis Date: **10/03/18 14:18** Units: **mg/kg-dry** **Prep Info:** Prep Date: **10/2/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	25.3	1.0	23.22	0	**109**	75	125	24.89	**1.5**	20	
Uranium	47.6	1.0	46.43	0.5575	**101**	75	125	49.81	**4.5**	20	

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138171

Run ID :Run Order: **PHSC_101-H_180914A: 132** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **09/14/18 18:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **PHSC_101-H_180914A: 133** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **09/14/18 18:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	**98**	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **PHSC_101-H_180914A: 136** SampType: **Sample Duplicate** Lab ID: **H18090303-001ADUP** Method: **A2320 B**

Analysis Date: **09/14/18 19:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	100	4.0		0				103.6	**0.7**	10	
Bicarbonate as HCO3	130	4.0		0				125.8	**0.7**	10	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **PHSC_101-H_180914A: 166** SampType: **Sample Duplicate** Lab ID: **H18090303-015ADUP** Method: **A2320 B**

Analysis Date: **09/14/18 20:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0		0				117.6	**0.2**	10	
Bicarbonate as HCO3	140	4.0		0				142.8	**0.2**	10	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138214

Run ID :Run Order: **IC METROHM_180914A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **09/14/18 15:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **09/14/18 15:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	1.0	100	0	103	90	110				
Sulfate	430	1.0	400	0	107	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **09/14/18 16:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.3	1.0	25	0	101	90	110				
Sulfate	108	1.0	100	0	108	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18090302-002AMS** Method: **E300.0**

Analysis Date: **09/15/18 06:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.8	1.0	25	20.71	100	90	110				
Sulfate	141	1.0	100	34.41	107	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138214

Run ID :Run Order: **IC METROHM_180914A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-002AMSD** Method: **E300.0**

Analysis Date: **09/15/18 06:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.3	1.0	25	20.71	102	90	110	45.81	1.0	20	
Sulfate	143	1.0	100	34.41	109	90	110	141.3	1.4	20	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 61** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **09/15/18 06:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.6	1.0	50	0	105	90	110				
Sulfate	220	1.0	200	0	110	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 73** SampType: **Sample Matrix Spike** Lab ID: **H18090303-009AMS** Method: **E300.0**

Analysis Date: **09/15/18 09:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.9	1.0	25	51.93	100	90	110				
Sulfate	217	1.0	100	108.7	108	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 74** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-009AMSD** Method: **E300.0**

Analysis Date: **09/15/18 10:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.8	1.0	25	51.93	100	90	110	76.94	0.2	20	
Sulfate	216	1.0	100	108.7	107	90	110	216.6	0.2	20	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138214

Run ID :Run Order: **IC METROHM_180914A: 75** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **09/15/18 10:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.8	1.0	50	0	104	90	110				
Sulfate	219	1.0	200	0	109	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 85** SampType: **Sample Matrix Spike** Lab ID: **H18090303-017AMS** Method: **E300.0**

Analysis Date: **09/15/18 12:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	64.4	1.0	25	39.59	99	90	110				
Sulfate	204	1.0	100	97.32	106	90	110				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **IC METROHM_180914A: 86** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-017AMSD** Method: **E300.0**

Analysis Date: **09/15/18 13:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	64.8	1.0	25	39.59	101	90	110	64.43	0.6	20	
Sulfate	206	1.0	100	97.32	108	90	110	203.8	0.9	20	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/17/18 11:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.307	0.10	0.3	0	102	90	110				
Antimony	0.0644	0.050	0.06	0	107	90	110				
Arsenic	0.0610	0.0050	0.06	0	102	90	110				
Barium	0.0625	0.10	0.06	0	104	90	110				
Beryllium	0.0303	0.0010	0.03	0	101	90	110				
Cadmium	0.0314	0.0010	0.03	0	105	90	110				
Chromium	0.0615	0.010	0.06	0	102	90	110				
Cobalt	0.0619	0.010	0.06	0	103	90	110				
Copper	0.0621	0.010	0.06	0	104	90	110				
Iron	0.310	0.020	0.3	0	103	90	110				
Lead	0.0622	0.010	0.06	0	104	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0618	0.0050	0.06	0	103	90	110				
Nickel	0.0622	0.010	0.06	0	104	90	110				
Selenium	0.0613	0.0050	0.06	0	102	90	110				
Silver	0.0313	0.0050	0.03	0	104	90	110				
Uranium	0.0609	0.00030	0.06	0	102	90	110				
Vanadium	0.0607	0.10	0.06	0	101	90	110				
Zinc	0.0628	0.010	0.06	0	105	90	110				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/17/18 11:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.0	0.10	40	0	100	70	130				
Antimony	0.000212	0.050		0							
Arsenic	6.82E-05	0.0050		0							
Barium	9.29E-05	0.10		0							
Beryllium	-1.27E-05	0.0010		0							
Cadmium	0.000247	0.0010		0							
Chromium	0.00122	0.010		0							
Cobalt	-2.49E-05	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/17/18 11:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000121	0.010		0							
Iron	97.4	0.020	100	0	97	70	130				
Lead	0.000763	0.010		0							
Manganese	0.000210	0.010		0							
Molybdenum	0.864	0.0050	0.8	0	108	70	130				
Nickel	8.25E-05	0.010		0							
Selenium	0.000126	0.0050		0							
Silver	7.23E-05	0.0050		0							
Uranium	1.80E-05	0.00030		0							
Vanadium	5.14E-05	0.10		0							
Zinc	0.000331	0.010		0							

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.5	0.10	40	0	99	70	130				
Antimony	0.000104	0.050		0		0	0				
Arsenic	0.00997	0.0050	0.01	0	100	70	130				
Barium	4.04E-05	0.10		0		0	0				
Beryllium	-1.99E-05	0.0010		0		0	0				
Cadmium	0.0100	0.0010	0.01	0	100	70	130				
Chromium	0.0204	0.010	0.02	0	102	70	130				
Cobalt	0.0192	0.010	0.02	0	96	70	130				
Copper	0.0190	0.010	0.02	0	95	70	130				
Iron	95.9	0.020	100	0	96	70	130				
Lead	0.000454	0.010		0		0	0				
Manganese	0.0198	0.010	0.02	0	99	70	130				
Molybdenum	0.849	0.0050	0.8	0	106	70	130				
Nickel	0.0192	0.010	0.02	0	96	70	130				
Selenium	0.00959	0.0050	0.01	0	96	70	130				
Silver	0.0197	0.0050	0.02	0	98	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 11:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.72E-06	0.00030		0		0	0				
Vanadium	0.0194	0.10	0.02	0	97	70	130				
Zinc	0.00969	0.010	0.01	0	97	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/17/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	0.003	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/17/18 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	85	115				
Antimony	0.0538	0.050	0.05	0	108	85	115				
Arsenic	0.0509	0.0050	0.05	0	102	85	115				
Barium	0.0524	0.10	0.05	0	105	85	115				
Beryllium	0.0494	0.0010	0.05	0	99	85	115				
Cadmium	0.0523	0.0010	0.05	0	105	85	115				
Chromium	0.0508	0.010	0.05	0	102	85	115				
Cobalt	0.0508	0.010	0.05	0	102	85	115				
Copper	0.0514	0.010	0.05	0	103	85	115				
Iron	0.153	0.020	0.15	0.003267	100	85	115				
Lead	0.0510	0.010	0.05	0	102	85	115				
Manganese	0.0507	0.010	0.05	0	101	85	115				
Molybdenum	0.0510	0.0050	0.05	0	102	85	115				
Nickel	0.0512	0.010	0.05	0	102	85	115				
Selenium	0.0501	0.0050	0.05	0	100	85	115				
Silver	0.0212	0.0050	0.02	0	106	85	115				
Uranium	0.0502	0.00030	0.05	0	100	85	115				
Vanadium	0.0496	0.10	0.05	0	99	85	115				
Zinc	0.0513	0.010	0.05	0	103	85	115				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 28** SampType: **Sample Matrix Spike** Lab ID: **H18090301-001AMS** Method: **E200.8**

Analysis Date: **09/17/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.030	0.05	0	103	70	130				
Antimony	0.0526	0.0010	0.05	0	105	70	130				
Arsenic	0.0515	0.0010	0.05	0.001712	100	70	130				
Barium	0.0513	0.050	0.05	0	103	70	130				
Beryllium	0.0486	0.0010	0.05	0	97	70	130				
Cadmium	0.0510	0.0010	0.05	0	102	70	130				
Chromium	0.0495	0.0050	0.05	0.0005629	98	70	130				
Cobalt	0.0497	0.0050	0.05	0	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 28** SampType: **Sample Matrix Spike** Lab ID: **H18090301-001AMS** Method: **E200.8**

Analysis Date: **09/17/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0526	0.0050	0.05	0.002887	100	70	130				
Iron	0.152	0.020	0.15	0.00214	100	70	130				
Lead	0.0506	0.0010	0.05	0.0001118	101	70	130				
Manganese	0.0494	0.0010	0.05	0	99	70	130				
Molybdenum	0.0522	0.0010	0.05	0.002195	100	70	130				
Nickel	0.0497	0.0050	0.05	0	99	70	130				
Selenium	0.0501	0.0010	0.05	0.001255	98	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Uranium	0.0525	0.00030	0.05	0.001058	103	70	130				
Vanadium	0.0503	0.010	0.05	0.00178	97	70	130				
Zinc	0.0621	0.010	0.05	0.01244	99	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090301-001AMSD** Method: **E200.8**

Analysis Date: **09/17/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0513	0.030	0.05	0	103	70	130	0.05165	0.7	20	
Antimony	0.0533	0.0010	0.05	0	107	70	130	0.05256	1.5	20	
Arsenic	0.0519	0.0010	0.05	0.001712	100	70	130	0.05149	0.8	20	
Barium	0.0524	0.050	0.05	0	105	70	130	0.05131	2.0	20	
Beryllium	0.0485	0.0010	0.05	0	97	70	130	0.04862	0.2	20	
Cadmium	0.0516	0.0010	0.05	0	103	70	130	0.05099	1.3	20	
Chromium	0.0495	0.0050	0.05	0.0005629	98	70	130	0.04947	0.1	20	
Cobalt	0.0495	0.0050	0.05	0	99	70	130	0.04966	0.3	20	
Copper	0.0524	0.0050	0.05	0.002887	99	70	130	0.05264	0.4	20	
Iron	0.151	0.020	0.15	0.00214	99	70	130	0.1524	0.9	20	
Lead	0.0516	0.0010	0.05	0.0001118	103	70	130	0.05063	1.9	20	
Manganese	0.0497	0.0010	0.05	0	99	70	130	0.04944	0.6	20	
Molybdenum	0.0531	0.0010	0.05	0.002195	102	70	130	0.05225	1.6	20	
Nickel	0.0499	0.0050	0.05	0	100	70	130	0.04974	0.3	20	
Selenium	0.0494	0.0010	0.05	0.001255	96	70	130	0.0501	1.3	20	
Silver	0.0205	0.0010	0.02	0	102	70	130	0.02022	1.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090301-001AMSD** Method: **E200.8**

Analysis Date: **09/17/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0524	0.00030	0.05	0.001058	103	70	130	0.05251	0.2	20	
Vanadium	0.0505	0.010	0.05	0.00178	97	70	130	0.05026	0.4	20	
Zinc	0.0620	0.010	0.05	0.01244	99	70	130	0.06214	0.3	20	

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 55** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006BMS** Method: **E200.8**

Analysis Date: **09/17/18 12:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0552	0.030	0.05	0.006145	98	70	130				
Antimony	0.0520	0.0010	0.05	0.0004195	103	70	130				
Arsenic	0.0573	0.0010	0.05	0.004711	105	70	130				
Barium	0.0961	0.050	0.05	0.04666	99	70	130				
Beryllium	0.0493	0.0010	0.05	0	99	70	130				
Cadmium	0.0502	0.0010	0.05	0.0001906	100	70	130				
Chromium	0.0497	0.0050	0.05	0	99	70	130				
Cobalt	0.0498	0.0050	0.05	0	100	70	130				
Copper	0.0671	0.0050	0.05	0.01741	99	70	130				
Iron	0.190	0.020	0.15	0.04017	100	70	130				
Lead	0.0510	0.0010	0.05	0.0001402	102	70	130				
Manganese	0.112	0.0010	0.05	0.06344	98	70	130				
Molybdenum	0.0545	0.0010	0.05	0.005479	98	70	130				
Nickel	0.0512	0.0050	0.05	0.001796	99	70	130				
Selenium	0.0552	0.0010	0.05	0.0006078	109	70	130				
Silver	0.0197	0.0010	0.02	0	99	70	130				
Uranium	0.0574	0.00030	0.05	0.00539	104	70	130				
Vanadium	0.0507	0.010	0.05	0.001769	98	70	130				
Zinc	0.290	0.010	0.05	0.2438		70	130				A

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 56** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006BMSD** Method: **E200.8**

Analysis Date: **09/17/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0569	0.030	0.05	0.006145	101	70	130	0.0552	3.0	20	
Antimony	0.0518	0.0010	0.05	0.0004195	103	70	130	0.05204	0.6	20	
Arsenic	0.0573	0.0010	0.05	0.004711	105	70	130	0.05731	0.0	20	
Barium	0.0960	0.050	0.05	0.04666	99	70	130	0.09613	0.2	20	
Beryllium	0.0488	0.0010	0.05	0	98	70	130	0.04926	1.0	20	
Cadmium	0.0503	0.0010	0.05	0.0001906	100	70	130	0.0502	0.2	20	
Chromium	0.0500	0.0050	0.05	0	100	70	130	0.04973	0.5	20	
Cobalt	0.0500	0.0050	0.05	0	100	70	130	0.04981	0.4	20	
Copper	0.0677	0.0050	0.05	0.01741	101	70	130	0.06711	0.9	20	
Iron	0.190	0.020	0.15	0.04017	100	70	130	0.1904	0.0	20	
Lead	0.0510	0.0010	0.05	0.0001402	102	70	130	0.05098	0.0	20	
Manganese	0.113	0.0010	0.05	0.06344	100	70	130	0.1124	0.7	20	
Molybdenum	0.0542	0.0010	0.05	0.005479	98	70	130	0.05446	0.4	20	
Nickel	0.0516	0.0050	0.05	0.001796	100	70	130	0.0512	0.7	20	
Selenium	0.0551	0.0010	0.05	0.0006078	109	70	130	0.05525	0.2	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.01971	0.3	20	
Uranium	0.0574	0.00030	0.05	0.00539	104	70	130	0.05743	0.1	20	
Vanadium	0.0510	0.010	0.05	0.001769	99	70	130	0.05073	0.6	20	
Zinc	0.293	0.010	0.05	0.2438		70	130	0.2904	1.0	20	A

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 65** SampType: **Sample Matrix Spike** Lab ID: **H18090303-016BMS** Method: **E200.8**

Analysis Date: **09/17/18 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.030	0.05	0	100	70	130				
Antimony	0.0524	0.0010	0.05	0	105	70	130				
Arsenic	0.0501	0.0010	0.05	0	100	70	130				
Barium	0.0523	0.050	0.05	0.001199	102	70	130				
Beryllium	0.0512	0.0010	0.05	0	102	70	130				
Cadmium	0.0517	0.0010	0.05	0	103	70	130				
Chromium	0.0502	0.0050	0.05	0	100	70	130				
Cobalt	0.0507	0.0050	0.05	0	101	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 65** SampType: **Sample Matrix Spike** Lab ID: **H18090303-016BMS** Method: **E200.8**

Analysis Date: **09/17/18 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0514	0.0050	0.05	0	103	70	130				
Iron	0.153	0.020	0.15	0	102	70	130				
Lead	0.0496	0.0010	0.05	0	99	70	130				
Manganese	0.0507	0.0010	0.05	0	101	70	130				
Molybdenum	0.0490	0.0010	0.05	0	98	70	130				
Nickel	0.0509	0.0050	0.05	0	102	70	130				
Selenium	0.0522	0.0010	0.05	0	104	70	130				
Silver	0.0206	0.0010	0.02	0	103	70	130				
Uranium	0.0492	0.00030	0.05	0	98	70	130				
Vanadium	0.0494	0.010	0.05	0	99	70	130				
Zinc	0.0624	0.010	0.05	0.01001	105	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-016BMSD** Method: **E200.8**

Analysis Date: **09/17/18 13:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.030	0.05	0	100	70	130	0.05011	0.0	20	
Antimony	0.0519	0.0010	0.05	0	104	70	130	0.05243	0.9	20	
Arsenic	0.0503	0.0010	0.05	0	101	70	130	0.05009	0.4	20	
Barium	0.0515	0.050	0.05	0.001199	101	70	130	0.05231	1.6	20	
Beryllium	0.0500	0.0010	0.05	0	100	70	130	0.05115	2.2	20	
Cadmium	0.0514	0.0010	0.05	0	103	70	130	0.05173	0.6	20	
Chromium	0.0502	0.0050	0.05	0	100	70	130	0.05021	0.1	20	
Cobalt	0.0510	0.0050	0.05	0	102	70	130	0.05067	0.6	20	
Copper	0.0514	0.0050	0.05	0	103	70	130	0.0514	0.0	20	
Iron	0.153	0.020	0.15	0	102	70	130	0.1532	0.3	20	
Lead	0.0510	0.0010	0.05	0	102	70	130	0.0496	2.8	20	
Manganese	0.0505	0.0010	0.05	0	101	70	130	0.05068	0.3	20	
Molybdenum	0.0488	0.0010	0.05	0	98	70	130	0.04904	0.5	20	
Nickel	0.0514	0.0050	0.05	0	103	70	130	0.0509	0.9	20	
Selenium	0.0521	0.0010	0.05	0	104	70	130	0.05219	0.2	20	
Silver	0.0205	0.0010	0.02	0	102	70	130	0.02065	0.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 66** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-016BMSD** Method: **E200.8**

Analysis Date: **09/17/18 13:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0511	0.00030	0.05	0	**102**	70	130	0.04924	**3.6**	20	
Vanadium	0.0496	0.010	0.05	0	**99**	70	130	0.04935	**0.6**	20	
Zinc	0.0616	0.010	0.05	0.01001	**103**	70	130	0.06242	**1.4**	20	

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 192** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/17/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.298	0.10	0.3	0	**99**	90	110				
Antimony	0.0609	0.050	0.06	0	**102**	90	110				
Arsenic	0.0593	0.0050	0.06	0	**99**	90	110				
Barium	0.0583	0.10	0.06	0	**97**	90	110				
Beryllium	0.0292	0.0010	0.03	0	**97**	90	110				
Cadmium	0.0296	0.0010	0.03	0	**99**	90	110				
Chromium	0.0598	0.010	0.06	0	**100**	90	110				
Cobalt	0.0603	0.010	0.06	0	**101**	90	110				
Copper	0.0602	0.010	0.06	0	**100**	90	110				
Iron	0.302	0.020	0.3	0	**101**	90	110				
Lead	0.0573	0.010	0.06	0	**95**	90	110				
Manganese	0.301	0.010	0.3	0	**100**	90	110				
Molybdenum	0.0588	0.0050	0.06	0	**98**	90	110				
Nickel	0.0602	0.010	0.06	0	**100**	90	110				
Selenium	0.0619	0.0050	0.06	0	**103**	90	110				
Silver	0.0295	0.0050	0.03	0	**98**	90	110				
Uranium	0.0557	0.00030	0.06	0	**93**	90	110				
Vanadium	0.0591	0.10	0.06	0	**98**	90	110				
Zinc	0.0610	0.010	0.06	0	**102**	90	110				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 193** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/17/18 17:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.9	0.10	40	0	100	70	130				
Antimony	0.000206	0.050		0							
Arsenic	8.39E-05	0.0050		0							
Barium	8.36E-05	0.10		0							
Beryllium	5.05E-05	0.0010		0							
Cadmium	0.000231	0.0010		0							
Chromium	0.00115	0.010		0							
Cobalt	1.56E-05	0.010		0							
Copper	0.000141	0.010		0							
Iron	95.5	0.020	100	0	96	70	130				
Lead	6.19E-05	0.010		0							
Manganese	0.000177	0.010		0							
Molybdenum	0.806	0.0050	0.8	0	101	70	130				
Nickel	9.17E-05	0.010		0							
Selenium	0.000195	0.0050		0							
Silver	6.04E-05	0.0050		0							
Uranium	1.73E-05	0.00030		0							
Vanadium	2.44E-05	0.10		0							
Zinc	0.000389	0.010		0							

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICPMS205-H_180917A: 194** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	39.0	0.10	40	0	98	70	130				
Antimony	9.79E-05	0.050		0		0	0				
Arsenic	0.00982	0.0050	0.01	0	98	70	130				
Barium	3.71E-05	0.10		0		0	0				
Beryllium	3.77E-05	0.0010		0		0	0				
Cadmium	0.00935	0.0010	0.01	0	93	70	130				
Chromium	0.0202	0.010	0.02	0	101	70	130				
Cobalt	0.0190	0.010	0.02	0	95	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138224

Run ID :Run Order: **ICPMS205-H_180917A: 194** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/17/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0189	0.010	0.02	0	94	70	130				
Iron	96.9	0.020	100	0	97	70	130				
Lead	4.81E-05	0.010		0		0	0				
Manganese	0.0193	0.010	0.02	0	97	70	130				
Molybdenum	0.785	0.0050	0.8	0	98	70	130				
Nickel	0.0189	0.010	0.02	0	94	70	130				
Selenium	0.00977	0.0050	0.01	0	98	70	130				
Silver	0.0180	0.0050	0.02	0	90	70	130				
Uranium	5.21E-06	0.00030		0		0	0				
Vanadium	0.0192	0.10	0.02	0	96	70	130				
Zinc	0.00942	0.010	0.01	0	94	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/17/18 11:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.811	0.10	0.8	0	101	95	105				
Calcium	39.6	1.0	40	0	99	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Potassium	40.2	1.0	40	0	100	95	105				
Sodium	40.2	1.0	40	0	100	95	105				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/17/18 11:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.3	1.0	25	0	101	95	105				
Magnesium	25.1	1.0	25	0	101	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.8	1.0	25	0	103	95	105				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/17/18 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00275	0.10		0		0	0				
Calcium	475	1.0	500	0	95	80	120				
Magnesium	523	1.0	500	0	105	80	120				
Potassium	-0.0192	1.0		0		0	0				
Sodium	0.0216	1.0		0		0	0				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/17/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.958	0.10	1	0	96	80	120				
Calcium	465	1.0	500	0	93	80	120				
Magnesium	512	1.0	500	0	102	80	120				
Potassium	19.3	1.0	20	0	97	80	120				
Sodium	19.2	1.0	20	0	96	80	120				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 14** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **09/17/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 15** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **09/17/18 11:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.965	0.10	1	0	97	85	115				
Calcium	51.7	1.0	50	0	103	85	115				
Magnesium	52.3	1.0	50	0	105	85	115				
Potassium	53.6	1.0	50	0	107	85	115				
Sodium	53.6	1.0	50	0	107	85	115				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/17/18 12:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	**97**	90	110				
Calcium	25.2	1.0	25	0	**101**	90	110				
Magnesium	24.9	1.0	25	0	**100**	90	110				
Potassium	25.1	1.0	25	0	**100**	90	110				
Sodium	25.2	1.0	25	0	**101**	90	110				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 42** SampType: **Sample Matrix Spike** Lab ID: **H18090303-003BMS2** Method: **E200.7**

Analysis Date: **09/17/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.06	0.050	1	0.07543	**98**	70	130				
Calcium	105	1.0	50	52.82	**104**	70	130				
Magnesium	65.2	1.0	50	13.7	**103**	70	130				
Potassium	56.4	1.0	50	5.663	**101**	70	130				
Sodium	82.9	1.0	50	31.7	**102**	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/17/18 13:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	**98**	90	110				
Calcium	25.6	1.0	25	0	**102**	90	110				
Magnesium	25.2	1.0	25	0	**101**	90	110				
Potassium	25.5	1.0	25	0	**102**	90	110				
Sodium	25.4	1.0	25	0	**102**	90	110				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-003BMSD2** Method: **E200.7**

Analysis Date: **09/17/18 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.07543	98	70	130	1.057	0.6	20	
Calcium	104	1.0	50	52.82	102	70	130	104.6	0.5	20	
Magnesium	64.8	1.0	50	13.7	102	70	130	65.24	0.6	20	
Potassium	55.8	1.0	50	5.663	100	70	130	56.4	1.0	20	
Sodium	82.2	1.0	50	31.7	101	70	130	82.86	0.7	20	

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/17/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	90	110				
Calcium	25.4	1.0	25	0	101	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Potassium	25.8	1.0	25	0	103	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Run ID :Run Order: **ICP2-HE_180917B: 59** SampType: **Sample Matrix Spike** Lab ID: **H18090303-013BMS2** Method: **E200.7**

Analysis Date: **09/17/18 14:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.985	0.050	1	0.06111	92	70	130				
Calcium	107	1.0	50	56.76	100	70	130				
Magnesium	63.9	1.0	50	12.36	103	70	130				
Potassium	60.0	1.0	50	5.342	109	70	130				
Sodium	84.9	1.0	50	29.96	110	70	130				

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138225

Run ID :Run Order: **ICP2-HE_180917B: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-013BMSD2** Method: **E200.7**

Analysis Date: **09/17/18 14:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.974	0.050	1	0.06111	**91**	70	130	0.9849	**1.1**	20	
Calcium	104	1.0	50	56.76	**95**	70	130	106.7	**2.1**	20	
Magnesium	61.9	1.0	50	12.36	**99**	70	130	63.9	**3.2**	20	
Potassium	58.5	1.0	50	5.342	**106**	70	130	59.98	**2.5**	20	
Sodium	83.8	1.0	50	29.96	**108**	70	130	84.9	**1.3**	20	

Associated samples: **H18090303-001B, H18090303-002B, H18090303-003B, H18090303-004B, H18090303-005B, H18090303-006B, H18090303-007B, H18090303-008B, H18090303-009B, H18090303-010B, H18090303-011B, H18090303-012B, H18090303-013B, H18090303-014B, H18090303-015B, H18090303-016B, H18090303-017B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138227

Run ID :Run Order: **FIA203-HE_180917B: 7** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **09/17/18 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **09/17/18 11:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.5	0.50	10.3	0	102	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **09/17/18 11:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.510	0.050	0.5	0	102	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **09/17/18 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.03	0.055	1	0	103	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 12** SampType: **Sample Matrix Spike** Lab ID: **H18090248-006CMS** Method: **E350.1**
Analysis Date: **09/17/18 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	40.3	1.1	20	21.92	92	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138227

Run ID :Run Order: **FIA203-HE_180917B: 12** SampType: **Sample Matrix Spike** Lab ID: **H18090248-006CMS** Method: **E350.1**

Analysis Date: **09/17/18 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 13** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090248-006CMSD** Method: **E350.1**

Analysis Date: **09/17/18 11:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	40.0	1.1	20	21.92	90	80	120	40.28	0.7	10	

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **09/17/18 11:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.507	0.050	0.5	0	101	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 26** SampType: **Sample Matrix Spike** Lab ID: **H18090303-006DMS** Method: **E350.1**

Analysis Date: **09/17/18 11:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.883	0.055	1	0	88	80	120				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 27** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-006DMSD** Method: **E350.1**

Analysis Date: **09/17/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.820	0.055	1	0	82	80	120	0.883	7.4	10	

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138227

Run ID :Run Order: **FIA203-HE_180917B: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **09/17/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.499	0.050	0.5	0	**100**	90	110				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 40** SampType: **Sample Matrix Spike** Lab ID: **H18090303-016DMS** Method: **E350.1**

Analysis Date: **09/17/18 12:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.00	0.055	1	0	**100**	80	120				

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180917B: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-016DMSD** Method: **E350.1**

Analysis Date: **09/17/18 12:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.972	0.055	1	0	**97**	80	120	1.001	**3.0**	10	

Associated samples: **H18090303-001D, H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/18/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.304	0.10	0.3	0	101	90	110				
Antimony	0.0638	0.050	0.06	0	106	90	110				
Arsenic	0.0613	0.0050	0.06	0	102	90	110				
Barium	0.0612	0.10	0.06	0	102	90	110				
Beryllium	0.0310	0.0010	0.03	0	103	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0619	0.010	0.06	0	103	90	110				
Cobalt	0.0618	0.010	0.06	0	103	90	110				
Copper	0.0624	0.010	0.06	0	104	90	110				
Iron	0.317	0.020	0.3	0	106	90	110				
Lead	0.0614	0.010	0.06	0	102	90	110				
Manganese	0.312	0.010	0.3	0	104	90	110				
Molybdenum	0.0612	0.0050	0.06	0	102	90	110				
Nickel	0.0621	0.010	0.06	0	103	90	110				
Selenium	0.0608	0.0050	0.06	0	101	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Uranium	0.0600	0.00030	0.06	0	100	90	110				
Vanadium	0.0615	0.10	0.06	0	103	90	110				
Zinc	0.0628	0.010	0.06	0	105	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005B, H18090303-005C, H18090303-006C, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/18/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.3	0.10	40	0	101	70	130				
Antimony	0.000229	0.050		0							
Arsenic	8.19E-05	0.0050		0							
Barium	8.95E-05	0.10		0							
Beryllium	-5.09E-05	0.0010		0							
Cadmium	0.000243	0.0010		0							
Chromium	0.00118	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/18/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	-6.74E-06	0.010		0							
Copper	0.000120	0.010		0							
Iron	100	0.020	100	0	100	70	130				
Lead	2.65E-05	0.010		0							
Manganese	0.000187	0.010		0							
Molybdenum	0.836	0.0050	0.8	0	105	70	130				
Nickel	0.000104	0.010		0							
Selenium	0.000179	0.0050		0							
Silver	7.92E-05	0.0050		0							
Uranium	2.08E-05	0.00030		0							
Vanadium	4.70E-05	0.10		0							
Zinc	0.000328	0.010		0							

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005B, H18090303-005C, H18090303-006C, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	40.9	0.10	40	0	102	70	130				
Antimony	0.000110	0.050		0		0	0				
Arsenic	0.0105	0.0050	0.01	0	105	70	130				
Barium	4.06E-05	0.10		0		0	0				
Beryllium	-7.40E-05	0.0010		0		0	0				
Cadmium	0.0103	0.0010	0.01	0	103	70	130				
Chromium	0.0214	0.010	0.02	0	107	70	130				
Cobalt	0.0202	0.010	0.02	0	101	70	130				
Copper	0.0200	0.010	0.02	0	100	70	130				
Iron	103	0.020	100	0	103	70	130				
Lead	4.29E-06	0.010		0		0	0				
Manganese	0.0204	0.010	0.02	0	102	70	130				
Molybdenum	0.861	0.0050	0.8	0	108	70	130				
Nickel	0.0201	0.010	0.02	0	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0101	0.0050	0.01	0	101	70	130				
Silver	0.0199	0.0050	0.02	0	100	70	130				
Uranium	6.10E-06	0.00030		0		0	0				
Vanadium	0.0204	0.10	0.02	0	102	70	130				
Zinc	0.0102	0.010	0.01	0	102	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005B, H18090303-005C, H18090303-006C, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/18/18 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.308	0.10	0.3	0	103	90	110				
Antimony	0.0637	0.050	0.06	0	106	90	110				
Arsenic	0.0614	0.0050	0.06	0	102	90	110				
Barium	0.0620	0.10	0.06	0	103	90	110				
Beryllium	0.0301	0.0010	0.03	0	100	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0609	0.010	0.06	0	101	90	110				
Cobalt	0.0615	0.010	0.06	0	103	90	110				
Copper	0.0622	0.010	0.06	0	104	90	110				
Iron	0.308	0.020	0.3	0	103	90	110				
Lead	0.0599	0.010	0.06	0	100	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0614	0.0050	0.06	0	102	90	110				
Nickel	0.0625	0.010	0.06	0	104	90	110				
Selenium	0.0614	0.0050	0.06	0	102	90	110				
Silver	0.0310	0.0050	0.03	0	103	90	110				
Uranium	0.0601	0.00030	0.06	0	100	90	110				
Vanadium	0.0612	0.10	0.06	0	102	90	110				
Zinc	0.0620	0.010	0.06	0	103	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/18/18 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005B, H18090303-005C, H18090303-006C, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/18/18 10:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.4	0.10	40	0	**104**	70	130				
Antimony	0.000220	0.050		0							
Arsenic	7.58E-05	0.0050		0							
Barium	8.53E-05	0.10		0							
Beryllium	5.40E-05	0.0010		0							
Cadmium	0.000256	0.0010		0							
Chromium	0.00122	0.010		0							
Cobalt	1.28E-05	0.010		0							
Copper	0.000159	0.010		0							
Iron	101	0.020	100	0	**101**	70	130				
Lead	6.83E-05	0.010		0							
Manganese	0.000184	0.010		0							
Molybdenum	0.858	0.0050	0.8	0	**107**	70	130				
Nickel	9.84E-05	0.010		0							
Selenium	0.000349	0.0050		0							
Silver	7.70E-05	0.0050		0							
Uranium	1.87E-05	0.00030		0							
Vanadium	4.91E-05	0.10		0							
Zinc	0.000384	0.010		0							

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005B, H18090303-005C, H18090303-006C, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/18/18 10:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.0	0.10	40	0	102	70	130				
Antimony	0.000105	0.050		0		0	0				
Arsenic	0.0103	0.0050	0.01	0	103	70	130				
Barium	6.00E-05	0.10		0		0	0				
Beryllium	2.30E-05	0.0010		0		0	0				
Cadmium	0.0104	0.0010	0.01	0	104	70	130				
Chromium	0.0214	0.010	0.02	0	107	70	130				
Cobalt	0.0202	0.010	0.02	0	101	70	130				
Copper	0.0200	0.010	0.02	0	100	70	130				
Iron	101	0.020	100	0	101	70	130				
Lead	5.72E-05	0.010		0		0	0				
Manganese	0.0204	0.010	0.02	0	102	70	130				
Molybdenum	0.875	0.0050	0.8	0	109	70	130				
Nickel	0.0202	0.010	0.02	0	101	70	130				
Selenium	0.0102	0.0050	0.01	0	102	70	130				
Silver	0.0203	0.0050	0.02	0	102	70	130				
Uranium	6.94E-06	0.00030		0		0	0				
Vanadium	0.0204	0.10	0.02	0	102	70	130				
Zinc	0.00988	0.010	0.01	0	99	70	130				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005B, H18090303-005C, H18090303-006C, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180918A: 35** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **09/18/18 10:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.0001									
Lead	ND	3E-05									
Selenium	ND	2E-05									
Zinc	ND	0.0003									

Associated samples: **H18090303-005B, H18090303-007B, H18090303-008B, H18090303-013B, H18090303-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138264

Run ID :Run Order: **ICPMS205-H_180918A: 36** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **09/18/18 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0477	0.0010	0.05	0	**95**	85	115				
Lead	0.0484	0.010	0.05	0	**97**	85	115				
Selenium	0.0499	0.0050	0.05	0	**100**	85	115				
Zinc	0.0509	0.010	0.05	0	**102**	85	115				

Associated samples: **H18090303-005B, H18090303-007B, H18090303-008B, H18090303-013B, H18090303-016B**

Run ID :Run Order: **ICPMS205-H_180918A: 138** SampType: **Sample Matrix Spike** Lab ID: **H18090302-002BMS** Method: **E200.8**

Analysis Date: **09/18/18 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0467	0.0010	0.05	0	**93**	70	130				
Lead	0.0493	0.0010	0.05	0.00008942	**98**	70	130				
Selenium	0.0532	0.0010	0.05	0.000167	**106**	70	130				
Zinc	0.0596	0.010	0.05	0.009583	**100**	70	130				

Associated samples: **H18090303-005B, H18090303-007B, H18090303-008B, H18090303-013B, H18090303-016B**

Run ID :Run Order: **ICPMS205-H_180918A: 139** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090302-002BMSD** Method: **E200.8**

Analysis Date: **09/18/18 13:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0483	0.0010	0.05	0	**97**	70	130	0.0467	**3.4**	20	
Lead	0.0488	0.0010	0.05	0.00008942	**98**	70	130	0.0493	**0.9**	20	
Selenium	0.0532	0.0010	0.05	0.000167	**106**	70	130	0.05319	**0.1**	20	
Zinc	0.0597	0.010	0.05	0.009583	**100**	70	130	0.05958	**0.3**	20	

Associated samples: **H18090303-005B, H18090303-007B, H18090303-008B, H18090303-013B, H18090303-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138287

Run ID :Run Order: **ICP2-HE_180918A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **09/18/18 11:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	41.2	1.0	40	0	103	95	105				
Magnesium	41.6	1.0	40	0	104	95	105				
Potassium	40.1	1.0	40	0	100	95	105				
Sodium	39.5	1.0	40	0	99	95	105				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **09/18/18 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25	0	102	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	25.3	1.0	25	0	101	95	105				
Sodium	25.1	1.0	25	0	100	95	105				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **09/18/18 11:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	487	1.0	500	0	97	80	120				
Magnesium	542	1.0	500	0	108	80	120				
Potassium	-0.00915	1.0		0		0	0				
Sodium	0.0223	1.0		0		0	0				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/18/18 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	481	1.0	500	0	96	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138287

Run ID :Run Order: **ICP2-HE_180918A: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **09/18/18 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	535	1.0	500	0	107	80	120				
Potassium	20.1	1.0	20	0	101	80	120				
Sodium	19.8	1.0	20	0	99	80	120				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/18/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.8	1.0	25	0	103	90	110				
Magnesium	26.0	1.0	25	0	104	90	110				
Potassium	27.3	1.0	25	0	109	90	110				
Sodium	27.1	1.0	25	0	108	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/18/18 14:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.7	1.0	25	0	103	90	110				
Magnesium	25.7	1.0	25	0	103	90	110				
Potassium	26.3	1.0	25	0	105	90	110				
Sodium	26.2	1.0	25	0	105	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 74** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/18/18 15:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.7	1.0	25	0	103	90	110				
Magnesium	25.4	1.0	25	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138287

Run ID :Run Order: **ICP2-HE_180918A: 74** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/18/18 15:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	25.6	1.0	25	0	**102**	90	110				
Sodium	25.4	1.0	25	0	**102**	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180918A: 86** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **09/18/18 16:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.5	1.0	25	0	**102**	90	110				
Magnesium	25.2	1.0	25	0	**101**	90	110				
Potassium	25.8	1.0	25	0	**103**	90	110				
Sodium	25.6	1.0	25	0	**102**	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138301

Run ID :Run Order: **ICPMS205-H_180919A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/19/18 10:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0619	0.050	0.06	0	103	90	110				
Beryllium	0.0299	0.0010	0.03	0	100	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Run ID :Run Order: **ICPMS205-H_180919A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/19/18 10:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000224	0.050		0							
Beryllium	4.82E-05	0.0010		0							

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Run ID :Run Order: **ICPMS205-H_180919A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/19/18 10:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000106	0.050		0		0	0				
Beryllium	4.01E-05	0.0010		0		0	0				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Run ID :Run Order: **ICPMS205-H_180919A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/19/18 11:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0631	0.050	0.06	0	105	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138301

Run ID :Run Order: **ICPMS205-H_180919A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/19/18 11:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000228	0.050		0							
Beryllium	-1.38E-05	0.0010		0							

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Run ID :Run Order: **ICPMS205-H_180919A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/19/18 11:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000111	0.050		0		0	0				
Beryllium	1.28E-05	0.0010		0		0	0				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Run ID :Run Order: **ICPMS205-H_180919A: 180** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/19/18 16:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0645	0.050	0.06	0	107	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Run ID :Run Order: **ICPMS205-H_180919A: 181** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/19/18 16:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000229	0.050		0							
Beryllium	5.83E-05	0.0010		0							

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138301

Run ID :Run Order: **ICPMS205-H_180919A: 182** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/19/18 16:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000101	0.050		0		0	0				
Beryllium	3.97E-05	0.0010		0		0	0				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138329

Run ID :Run Order: **ICP2-HE_180919B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **09/19/18 08:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.767	0.10	0.8	0	96	95	105				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**
Analysis Date: **09/19/18 09:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	98	95	105				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**
Analysis Date: **09/19/18 09:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0110	0.10		0		0	0				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**
Analysis Date: **09/19/18 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.986	0.10	1	0	99	80	120				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 14** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**
Analysis Date: **09/19/18 09:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138329

Run ID :Run Order: **ICP2-HE_180919B: 15** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**
Analysis Date: **09/19/18 09:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.963	0.10	1	0	96	85	115				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 39** SampType: **Sample Matrix Spike** Lab ID: **H18090307-001BMS2** Method: **E200.7**
Analysis Date: **09/19/18 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.903	0.10	1	0	90	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090307-001BMSD2** Method: **E200.7**
Analysis Date: **09/19/18 15:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.931	0.10	1	0	93	70	130	0.9033	3.0	20	

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **09/19/18 16:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 66** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **09/19/18 17:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138329

Run ID :Run Order: **ICP2-HE_180919B: 78** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **09/19/18 18:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.37	0.10	2.5	0	95	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 85** SampType: **Serial Dilution** Lab ID: **H18090303-015CDIL** Method: **E200.7**
Analysis Date: **09/19/18 18:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0667	0.050		0		0	0	0.05744		10	N

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 87** SampType: **Sample Matrix Spike** Lab ID: **H18090303-015CMS3** Method: **E200.7**
Analysis Date: **09/19/18 18:47** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.544	0.050	0.5	0.05744	97	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-015CMSD3** Method: **E200.7**
Analysis Date: **09/19/18 18:51** Units: **mg/L** **Prep Info:** Prep Date: **9/17/2018** Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.540	0.050	0.5	0.05744	96	70	130	0.5437	0.8	20	

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICP2-HE_180919B: 90** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **09/19/18 18:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				

Associated samples: **H18090303-001C, H18090303-002C, H18090303-003C, H18090303-004C, H18090303-005C, H18090303-006C, H18090303-007C, H18090303-008C, H18090303-009C, H18090303-010C, H18090303-011C, H18090303-012C, H18090303-013C, H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138353

Run ID :Run Order: **FIA203-HE_180920B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **09/20/18 13:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.977	0.010	1	0	98	90	110				

Associated samples: **H18090303-001D**

Run ID :Run Order: **FIA203-HE_180920B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **09/20/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18090303-001D**

Run ID :Run Order: **FIA203-HE_180920B: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **09/20/18 13:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	102	90	110				

Associated samples: **H18090303-001D**

Run ID :Run Order: **FIA203-HE_180920B: 13** SampType: **Sample Matrix Spike** Lab ID: **H18090407-001AMS** Method: **E353.2**
Analysis Date: **09/20/18 13:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	9.07	0.055	5	4.007	101	90	110				

Associated samples: **H18090303-001D**

Run ID :Run Order: **FIA203-HE_180920B: 14** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090407-001AMSD** Method: **E353.2**
Analysis Date: **09/20/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	9.12	0.055	5	4.007	102	90	110	9.07	0.6	10	

Associated samples: **H18090303-001D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138353

Run ID :Run Order: **FIA203-HE_180920B: 24** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **09/20/18 14:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.450	0.010	0.5	0	**90**	90	110				

Associated samples: **H18090303-001D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138356

Run ID :Run Order: **FIA203-HE_180920C: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **09/20/18 14:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.939	0.010	1	0	94	90	110				

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **09/20/18 14:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **09/20/18 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.970	0.011	1	0	97	90	110				

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 15** SampType: **Sample Matrix Spike** Lab ID: **H18090303-004DMS** Method: **E353.2**
Analysis Date: **09/20/18 14:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.83	0.011	1	0.8704	96	90	110				

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-004DMSD** Method: **E353.2**
Analysis Date: **09/20/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.79	0.011	1	0.8704	92	90	110	1.833	2.2	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138356

Run ID :Run Order: **FIA203-HE_180920C: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-004DMSD** Method: **E353.2**

Analysis Date: **09/20/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 24** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **09/20/18 14:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.469	0.010	0.5	0	94	90	110				

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 27** SampType: **Sample Matrix Spike** Lab ID: **H18090303-012DMS** Method: **E353.2**

Analysis Date: **09/20/18 15:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.75	0.011	1	0.7928	96	90	110				

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Run ID :Run Order: **FIA203-HE_180920C: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18090303-012DMSD** Method: **E353.2**

Analysis Date: **09/20/18 15:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.75	0.011	1	0.7928	95	90	110	1.753	0.4	10	

Associated samples: **H18090303-002D, H18090303-003D, H18090303-004D, H18090303-005D, H18090303-006D, H18090303-007D, H18090303-008D, H18090303-009D, H18090303-010D, H18090303-011D, H18090303-012D, H18090303-013D, H18090303-014D, H18090303-015D, H18090303-016D, H18090303-017D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138389

Run ID :Run Order: **ICPMS205-H_180921A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/21/18 09:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Iron	0.312	0.020	0.3	0	104	90	110				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/18 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.000255	0.0010		0							
Iron	99.8	0.020	100	0	100	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/21/18 09:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0104	0.0010	0.01	0	104	70	130				
Iron	102	0.020	100	0	102	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/21/18 10:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0304	0.0010	0.03	0	101	90	110				
Iron	0.316	0.020	0.3	0	106	90	110				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/18 10:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.000240	0.0010		0							
Iron	102	0.020	100	0	102	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138389

Run ID :Run Order: **ICPMS205-H_180921A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **09/21/18 10:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **09/21/18 10:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0101	0.0010	0.01	0	101	70	130				
Iron	103	0.020	100	0	103	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 211** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **09/21/18 15:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Iron	0.310	0.020	0.3	0	104	90	110				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 212** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **09/21/18 16:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.000259	0.0010		0							
Iron	103	0.020	100	0	103	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 213** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **09/21/18 16:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0101	0.0010	0.01	0	101	70	130				
Iron	102	0.020	100	0	102	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138389

Run ID :Run Order: **ICPMS205-H_180921A: 451** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **09/21/18 23:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0316	0.0010	0.03	0	105	90	110				
Iron	0.317	0.020	0.3	0	106	90	110				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 452** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **09/21/18 23:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.000265	0.0010		0							
Iron	103	0.020	100	0	103	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Run ID :Run Order: **ICPMS205-H_180921A: 453** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **09/21/18 23:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0103	0.0010	0.01	0	103	70	130				
Iron	103	0.020	100	0	103	70	130				

Associated samples: **H18090303-014C, H18090303-015C, H18090303-016C, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138392

Run ID :Run Order: **HGCV202-H_180921A: 20** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/21/18 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	90	110				

Associated samples: **H18090303-001B, H18090303-001C, H18090303-002B, H18090303-002C, H18090303-003B, H18090303-003C, H18090303-004B, H18090303-005B, H18090303-005C, H18090303-006B, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009B, H18090303-009C, H18090303-010B, H18090303-010C, H18090303-011B, H18090303-011C, H18090303-012B, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014B, H18090303-014C, H18090303-015B, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017B, H18090303-017C**

Run ID :Run Order: **HGCV202-H_180921A: 21** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **09/21/18 11:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	95	105				

Associated samples: **H18090303-001B, H18090303-001C, H18090303-002B, H18090303-002C, H18090303-003B, H18090303-003C, H18090303-004B, H18090303-005B, H18090303-005C, H18090303-006B, H18090303-007B, H18090303-007C, H18090303-008B, H18090303-008C, H18090303-009B, H18090303-009C, H18090303-010B, H18090303-010C, H18090303-011B, H18090303-011C, H18090303-012B, H18090303-012C, H18090303-013B, H18090303-013C, H18090303-014B, H18090303-014C, H18090303-015B, H18090303-015C, H18090303-016B, H18090303-016C, H18090303-017B, H18090303-017C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138511

Run ID :Run Order: **HGCV202-H_180925A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **09/25/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000102	0.00010	0.0001	0	**102**	90	110				

Associated samples: **H18090303-004C, H18090303-006C**

Run ID :Run Order: **HGCV202-H_180925A: 9** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **09/25/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000102	0.00010	0.0001	0	**102**	95	105				

Associated samples: **H18090303-004C, H18090303-006C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138606

Run ID :Run Order: **ICPMS205-H_180928B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **09/28/18 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0605	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0592	0.0010	0.06	0	**99**	90	110				
Barium	0.0579	0.0010	0.06	0	**96**	90	110				
Beryllium	0.0288	0.0010	0.03	0	**96**	90	110				
Cadmium	0.0295	0.0010	0.03	0	**98**	90	110				
Calcium	2.96	0.14	3	0	**99**	90	110				
Chromium	0.0592	0.0010	0.06	0	**99**	90	110				
Cobalt	0.0597	0.0010	0.06	0	**100**	90	110				
Copper	0.0594	0.0010	0.06	0	**99**	90	110				
Lead	0.0582	0.0010	0.06	0	**97**	90	110				
Molybdenum	0.0581	0.0010	0.06	0	**97**	90	110				
Nickel	0.0600	0.0010	0.06	0	**100**	90	110				
Selenium	0.0595	0.0010	0.06	0	**99**	90	110				
Silver	0.0292	0.0010	0.03	0	**97**	90	110				
Uranium	0.0564	0.00030	0.06	0	**94**	90	110				
Vanadium	0.0586	0.0010	0.06	0	**98**	90	110				
Zinc	0.0610	0.0010	0.06	0	**102**	90	110				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/28/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000179	0.0010		0							
Arsenic	-6.00E-06	0.0010		0							
Barium	7.60E-05	0.0010		0							
Beryllium	4.90E-07	0.0010		0							
Cadmium	0.000243	0.0010		0							
Calcium	119	0.14	120	0	**99**	70	130				
Chromium	0.00118	0.0010		0							
Cobalt	2.27E-05	0.0010		0							
Copper	2.61E-05	0.0010		0							
Lead	1.02E-05	0.0010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138606

Run ID :Run Order: **ICPMS205-H_180928B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/28/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.858	0.0010	0.8	0	**107**	70	130				
Nickel	5.06E-05	0.0010		0		0	0				
Selenium	0.000160	0.0010		0							
Silver	8.16E-05	0.0010		0							
Uranium	2.16E-05	0.00030		0							
Vanadium	-0.00155	0.0010		0		0	0				
Zinc	0.000239	0.0010		0							

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Run ID :Run Order: **ICPMS205-H_180928B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/28/18 11:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	8.11E-05	0.0010		0		0	0				
Arsenic	0.0104	0.0010	0.01	0	**104**	70	130				
Barium	4.86E-05	0.0010		0		0	0				
Beryllium	-3.23E-05	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	**102**	70	130				
Calcium	120	0.14	120	0	**100**	70	130				
Chromium	0.0215	0.0010	0.02	0	**107**	70	130				
Cobalt	0.0202	0.0010	0.02	0	**101**	70	130				
Copper	0.0198	0.0010	0.02	0	**99**	70	130				
Lead	9.61E-07	0.0010		0		0	0				
Molybdenum	0.867	0.0010	0.8	0	**108**	70	130				
Nickel	0.0204	0.0010	0.02	0	**102**	70	130				
Selenium	0.0101	0.0010	0.01	0	**101**	70	130				
Silver	0.0201	0.0010	0.02	0	**100**	70	130				
Uranium	3.97E-06	0.00030		0		0	0				
Vanadium	0.0193	0.0010	0.02	0	**96**	70	130				
Zinc	0.00990	0.0010	0.01	0	**99**	70	130				

Associated samples: **H18090303-021A, H18090303-030A, H18090303-033A, H18090303-036A, H18090303-039A, H18090303-042A, H18090303-045A, H18090303-048A, H18090303-051A, H18090303-054A, H18090303-057A, H18090303-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138613

Run ID :Run Order: **ICPMS205-H_180927B: 15** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **09/27/18 11:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0636	0.0010	0.06	0	106	90	110				
Arsenic	0.0617	0.0010	0.06	0	103	90	110				
Barium	0.0620	0.0010	0.06	0	103	90	110				
Beryllium	0.0307	0.0010	0.03	0	102	90	110				
Boron	0.0604	0.0032	0.06	0	101	90	110				
Cadmium	0.0311	0.0010	0.03	0	104	90	110				
Calcium	3.08	0.14	3	0	103	90	110				
Chromium	0.0626	0.0010	0.06	0	104	90	110				
Cobalt	0.0624	0.0010	0.06	0	104	90	110				
Copper	0.0629	0.0010	0.06	0	105	90	110				
Lead	0.0616	0.0010	0.06	0	103	90	110				
Manganese	0.315	0.0010	0.3	0	105	90	110				
Molybdenum	0.0616	0.0010	0.06	0	103	90	110				
Nickel	0.0629	0.0010	0.06	0	105	90	110				
Selenium	0.0615	0.0010	0.06	0	102	90	110				
Silver	0.0310	0.0010	0.03	0	103	90	110				
Uranium	0.0604	0.00030	0.06	0	101	90	110				
Vanadium	0.0621	0.0010	0.06	0	103	90	110				
Zinc	0.0635	0.0010	0.06	0	106	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/27/18 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000216	0.0010		0							
Arsenic	8.89E-05	0.0010		0							
Barium	8.75E-05	0.0010		0							
Beryllium	-2.99E-05	0.0010		0							
Boron	0.00526	0.0032		0							
Cadmium	0.000267	0.0010		0							
Calcium	117	0.14	120	0	97	70	130				
Chromium	0.00120	0.0010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138613

Run ID :Run Order: **ICPMS205-H_180927B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **09/27/18 11:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	-1.41E-05	0.0010		0							
Copper	0.000208	0.0010		0							
Lead	9.28E-05	0.0010		0							
Manganese	0.000189	0.0010		0		0	0				
Molybdenum	0.826	0.0010	0.8	0	103	70	130				
Nickel	6.56E-05	0.0010		0		0	0				
Selenium	0.000384	0.0010		0							
Silver	7.99E-05	0.0010		0							
Uranium	2.00E-05	0.00030		0							
Vanadium	6.96E-05	0.0010		0		0	0				
Zinc	0.000534	0.0010		0							

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Run ID :Run Order: **ICPMS205-H_180927B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/27/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.86E-05	0.0010		0		0	0				
Arsenic	0.0104	0.0010	0.01	0	104	70	130				
Barium	6.10E-05	0.0010		0		0	0				
Beryllium	-7.03E-05	0.0010		0		0	0				
Boron	0.00437	0.0032		0		0	0				
Cadmium	0.0101	0.0010	0.01	0	101	70	130				
Calcium	119	0.14	120	0	99	70	130				
Chromium	0.0214	0.0010	0.02	0	107	70	130				
Cobalt	0.0199	0.0010	0.02	0	99	70	130				
Copper	0.0199	0.0010	0.02	0	99	70	130				
Lead	6.33E-05	0.0010		0		0	0				
Manganese	0.0217	0.0010	0.02	0	108	70	130				
Molybdenum	0.846	0.0010	0.8	0	106	70	130				
Nickel	0.0198	0.0010	0.02	0	99	70	130				
Selenium	0.0101	0.0010	0.01	0	101	70	130				
Silver	0.0197	0.0010	0.02	0	98	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138613

Run ID :Run Order: **ICPMS205-H_180927B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **09/27/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.64E-06	0.00030		0		0	0				
Vanadium	0.0203	0.0010	0.02	0	101	70	130				
Zinc	0.0104	0.0010	0.01	0	104	70	130				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R138641

Run ID :Run Order: **ICP2-HE_181001B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **10/01/18 09:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.11	0.10	4	0	103	90	110				
Boron	0.779	0.10	0.8	0	97	90	110				
Copper	0.806	0.012	0.8	0	101	90	110				
Iron	4.10	0.030	4	0	102	90	110				
Manganese	3.95	0.010	4	0	99	90	110				
Vanadium	0.792	0.10	0.8	0	99	90	110				
Zinc	0.785	0.010	0.8	0	98	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-033A, H18090303-034A, H18090303-036A, H18090303-037A, H18090303-039A, H18090303-040A, H18090303-042A, H18090303-043A, H18090303-045A, H18090303-046A, H18090303-048A, H18090303-049A, H18090303-051A, H18090303-052A, H18090303-054A, H18090303-055A, H18090303-057A, H18090303-058A, H18090303-060A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 12** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **10/01/18 09:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	539	0.10	500	0	108	80	120				
Boron	0.00899	0.10		0		0	0				
Copper	-0.00256	0.012		0		0	0				
Iron	189	0.030	200	0	95	80	120				
Manganese	-0.0331	0.010		0		0	0				
Vanadium	0.00302	0.10		0		0	0				
Zinc	0.00156	0.010		0		0	0				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-033A, H18090303-034A, H18090303-036A, H18090303-037A, H18090303-039A, H18090303-040A, H18090303-042A, H18090303-043A, H18090303-045A, H18090303-046A, H18090303-048A, H18090303-049A, H18090303-051A, H18090303-052A, H18090303-054A, H18090303-055A, H18090303-057A, H18090303-058A, H18090303-060A, H18090303-061A**

Run ID :Run Order: **ICP2-HE_181001B: 13** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/01/18 09:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	535	0.10	500	0	107	80	120				
Boron	0.989	0.10	1	0	99	80	120				
Copper	0.523	0.012	0.5	0	105	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138641

Run ID :Run Order: **ICP2-HE_181001B: 13** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/01/18 09:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187	0.030	200	0	**93**	80	120				
Manganese	0.444	0.010	0.5	0	**89**	80	120				
Vanadium	0.491	0.10	0.5	0	**98**	80	120				
Zinc	0.979	0.010	1	0	**98**	80	120				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-033A, H18090303-034A, H18090303-036A, H18090303-037A, H18090303-039A, H18090303-040A, H18090303-042A, H18090303-043A, H18090303-045A, H18090303-046A, H18090303-048A, H18090303-049A, H18090303-051A, H18090303-052A, H18090303-054A, H18090303-055A, H18090303-057A, H18090303-058A, H18090303-060A, H18090303-061A**

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138655

Run ID :Run Order: **ICPMS205-H_181001A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **10/01/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0617	0.0010	0.06	0	103	90	110				
Arsenic	0.0620	0.0010	0.06	0	103	90	110				
Barium	0.0597	0.0010	0.06	0	100	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				
Cadmium	0.0300	0.0010	0.03	0	100	90	110				
Calcium	3.05	0.14	3	0	102	90	110				
Chromium	0.0618	0.0010	0.06	0	103	90	110				
Cobalt	0.0619	0.0010	0.06	0	103	90	110				
Lead	0.0606	0.0010	0.06	0	101	90	110				
Molybdenum	0.0595	0.0010	0.06	0	99	90	110				
Nickel	0.0623	0.0010	0.06	0	104	90	110				
Selenium	0.0620	0.0010	0.06	0	103	90	110				
Silver	0.0298	0.0010	0.03	0	99	90	110				
Uranium	0.0609	0.00030	0.06	0	101	90	110				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **10/01/18 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000224	0.0010		0							
Arsenic	7.41E-05	0.0010		0							
Barium	4.68E-05	0.0010		0							
Beryllium	5.34E-05	0.0010		0							
Cadmium	0.000186	0.0010		0							
Calcium	112	0.14	120	0	94	70	130				
Chromium	0.00118	0.0010		0							
Cobalt	-4.67E-06	0.0010		0							
Lead	0.000102	0.0010		0							
Molybdenum	0.775	0.0010	0.8	0	97	70	130				
Nickel	3.53E-05	0.0010		0		0	0				
Selenium	8.56E-05	0.0010		0							
Silver	6.18E-05	0.0010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138655

Run ID :Run Order: **ICPMS205-H_181001A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **10/01/18 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	2.00E-05	0.00030		0							

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **10/01/18 12:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000112	0.0010		0		0	0				
Arsenic	0.0100	0.0010	0.01	0	100	70	130				
Barium	4.32E-05	0.0010		0		0	0				
Beryllium	-2.15E-05	0.0010		0		0	0				
Cadmium	0.00960	0.0010	0.01	0	96	70	130				
Calcium	110	0.14	120	0	92	70	130				
Chromium	0.0207	0.0010	0.02	0	103	70	130				
Cobalt	0.0194	0.0010	0.02	0	97	70	130				
Lead	8.07E-05	0.0010		0		0	0				
Molybdenum	0.794	0.0010	0.8	0	99	70	130				
Nickel	0.0195	0.0010	0.02	0	97	70	130				
Selenium	0.00941	0.0010	0.01	0	94	70	130				
Silver	0.0188	0.0010	0.02	0	94	70	130				
Uranium	5.19E-06	0.00030		0		0	0				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **10/01/18 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0616	0.0010	0.06	0	103	90	110				
Arsenic	0.0610	0.0010	0.06	0	102	90	110				
Barium	0.0600	0.0010	0.06	0	100	90	110				
Beryllium	0.0299	0.0010	0.03	0	100	90	110				
Cadmium	0.0302	0.0010	0.03	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138655

Run ID :Run Order: **ICPMS205-H_181001A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **10/01/18 13:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	3.10	0.14	3	0	103	90	110				
Chromium	0.0611	0.0010	0.06	0	102	90	110				
Cobalt	0.0617	0.0010	0.06	0	103	90	110				
Lead	0.0615	0.0010	0.06	0	103	90	110				
Molybdenum	0.0599	0.0010	0.06	0	100	90	110				
Nickel	0.0620	0.0010	0.06	0	103	90	110				
Selenium	0.0621	0.0010	0.06	0	103	90	110				
Silver	0.0299	0.0010	0.03	0	100	90	110				
Uranium	0.0607	0.00030	0.06	0	101	90	110				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Run ID :Run Order: **ICPMS205-H_181001A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **10/01/18 13:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000234	0.0010		0							
Arsenic	6.90E-05	0.0010		0							
Barium	5.00E-05	0.0010		0							
Beryllium	5.47E-06	0.0010		0							
Cadmium	0.000194	0.0010		0							
Calcium	118	0.14	120	0	98	70	130				
Chromium	0.00113	0.0010		0							
Cobalt	1.14E-05	0.0010		0							
Lead	0.000103	0.0010		0							
Molybdenum	0.804	0.0010	0.8	0	100	70	130				
Nickel	6.32E-05	0.0010		0		0	0				
Selenium	0.000107	0.0010		0							
Silver	6.36E-05	0.0010		0							
Uranium	1.68E-05	0.00030		0							

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138655

Run ID :Run Order: **ICPMS205-H_181001A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **10/01/18 13:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000115	0.0010		0		0	0				
Arsenic	0.00999	0.0010	0.01	0	100	70	130				
Barium	3.42E-05	0.0010		0		0	0				
Beryllium	-1.63E-07	0.0010		0		0	0				
Cadmium	0.00985	0.0010	0.01	0	98	70	130				
Calcium	118	0.14	120	0	98	70	130				
Chromium	0.0205	0.0010	0.02	0	103	70	130				
Cobalt	0.0194	0.0010	0.02	0	97	70	130				
Lead	8.36E-05	0.0010		0		0	0				
Molybdenum	0.821	0.0010	0.8	0	103	70	130				
Nickel	0.0195	0.0010	0.02	0	98	70	130				
Selenium	0.00945	0.0010	0.01	0	95	70	130				
Silver	0.0194	0.0010	0.02	0	97	70	130				
Uranium	4.95E-06	0.00030		0		0	0				

Associated samples: **H18090303-031A, H18090303-034A, H18090303-037A, H18090303-040A, H18090303-043A, H18090303-046A, H18090303-049A, H18090303-052A, H18090303-055A, H18090303-058A, H18090303-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138693

Run ID :Run Order: **HGCV201-H_181002A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **10/02/18 13:13** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0010	0.50	0.001	0	**101**	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **HGCV201-H_181002A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **10/02/18 13:15** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**99**	90	110				

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138709

Run ID :Run Order: **ICPMS205-H_181003B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **10/03/18 11:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0620	0.0010	0.06	0	103	90	110				
Arsenic	0.0619	0.0010	0.06	0	103	90	110				
Barium	0.0595	0.0010	0.06	0	99	90	110				
Beryllium	0.0292	0.0010	0.03	0	97	90	110				
Cadmium	0.0306	0.0010	0.03	0	102	90	110				
Calcium	3.03	0.14	3	0	101	90	110				
Chromium	0.0622	0.0010	0.06	0	104	90	110				
Copper	0.0628	0.0010	0.06	0	105	90	110				
Lead	0.0603	0.0010	0.06	0	101	90	110				
Molybdenum	0.0631	0.0010	0.06	0	105	90	110				
Nickel	0.0630	0.0010	0.06	0	105	90	110				
Selenium	0.0617	0.0010	0.06	0	103	90	110				
Silver	0.0309	0.0010	0.03	0	103	90	110				
Uranium	0.0603	0.00030	0.06	0	101	90	110				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **10/03/18 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000221	0.0010		0							
Arsenic	7.88E-05	0.0010		0							
Barium	0.000154	0.0010		0							
Beryllium	6.27E-05	0.0010		0							
Cadmium	0.000200	0.0010		0							
Calcium	122	0.14	120	0	102	70	130				
Chromium	0.00126	0.0010		0							
Copper	0.000185	0.0010		0							
Lead	6.95E-05	0.0010		0							
Molybdenum	0.849	0.0010	0.8	0	106	70	130				
Nickel	5.26E-05	0.0010		0		0	0				
Selenium	9.61E-05	0.0010		0							
Silver	9.26E-05	0.0010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138709

Run ID :Run Order: **ICPMS205-H_181003B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **10/03/18 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	2.04E-05	0.00030		0							

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **10/03/18 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.81E-05	0.0010		0		0	0				
Arsenic	0.0105	0.0010	0.01	0	105	70	130				
Barium	4.29E-05	0.0010		0		0	0				
Beryllium	3.08E-05	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	102	70	130				
Calcium	116	0.14	120	0	97	70	130				
Chromium	0.0215	0.0010	0.02	0	108	70	130				
Copper	0.0202	0.0010	0.02	0	101	70	130				
Lead	4.56E-05	0.0010		0		0	0				
Molybdenum	0.842	0.0010	0.8	0	105	70	130				
Nickel	0.0204	0.0010	0.02	0	102	70	130				
Selenium	0.00957	0.0010	0.01	0	96	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Uranium	6.00E-06	0.00030		0		0	0				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **10/03/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0641	0.0010	0.06	0	107	90	110				
Arsenic	0.0615	0.0010	0.06	0	103	90	110				
Barium	0.0620	0.0010	0.06	0	103	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Cadmium	0.0315	0.0010	0.03	0	105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138709

Run ID :Run Order: **ICPMS205-H_181003B: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **10/03/18 11:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	3.05	0.14	3	0	102	90	110				
Chromium	0.0616	0.0010	0.06	0	103	90	110				
Copper	0.0622	0.0010	0.06	0	104	90	110				
Lead	0.0608	0.0010	0.06	0	101	90	110				
Molybdenum	0.0618	0.0010	0.06	0	103	90	110				
Nickel	0.0618	0.0010	0.06	0	103	90	110				
Selenium	0.0622	0.0010	0.06	0	104	90	110				
Silver	0.0309	0.0010	0.03	0	103	90	110				
Uranium	0.0609	0.00030	0.06	0	102	90	110				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICPMS205-H_181003B: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **10/03/18 11:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000225	0.0010		0							
Arsenic	7.24E-05	0.0010		0							
Barium	0.000169	0.0010		0							
Beryllium	3.43E-05	0.0010		0							
Cadmium	0.000197	0.0010		0							
Calcium	126	0.14	120	0	105	70	130				
Chromium	0.00127	0.0010		0							
Copper	0.000184	0.0010		0							
Lead	6.21E-05	0.0010		0							
Molybdenum	0.872	0.0010	0.8	0	109	70	130				
Nickel	6.90E-05	0.0010		0		0	0				
Selenium	0.000106	0.0010		0							
Silver	8.96E-05	0.0010		0							
Uranium	1.97E-05	0.00030		0							

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138709

Run ID :Run Order: **ICPMS205-H_181003B: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **10/03/18 11:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000110	0.0010		0		0	0				
Arsenic	0.0107	0.0010	0.01	0	107	70	130				
Barium	3.57E-05	0.0010		0		0	0				
Beryllium	-4.21E-06	0.0010		0		0	0				
Cadmium	0.0106	0.0010	0.01	0	106	70	130				
Calcium	126	0.14	120	0	105	70	130				
Chromium	0.0219	0.0010	0.02	0	110	70	130				
Copper	0.0205	0.0010	0.02	0	103	70	130				
Lead	4.71E-05	0.0010		0		0	0				
Molybdenum	0.878	0.0010	0.8	0	110	70	130				
Nickel	0.0206	0.0010	0.02	0	103	70	130				
Selenium	0.00977	0.0010	0.01	0	98	70	130				
Silver	0.0208	0.0010	0.02	0	104	70	130				
Uranium	5.38E-06	0.00030		0		0	0				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138735

Run ID :Run Order: **SOIL DRYING OVEN 2_181003A: 9** SampType: **Sample Duplicate** Lab ID: **H18090303-020ADUP** Method: **D2974**

Analysis Date: **10/04/18 09:45** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	17.7	0.20		0				16.81	5.4	20	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181003A: 4** SampType: **Sample Duplicate** Lab ID: **H18090303-028ADUP** Method: **D2974**

Analysis Date: **10/04/18 09:45** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	25.7	0.20		0				25.73	0.3	20	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181003A: 4** SampType: **Sample Duplicate** Lab ID: **H18090303-046ADUP** Method: **D2974**

Analysis Date: **10/04/18 09:45** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	19.6	0.20		0				20.34	3.5	20	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181003A: 8** SampType: **Sample Duplicate** Lab ID: **H18090303-056ADUP** Method: **D2974**

Analysis Date: **10/04/18 09:45** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.8	0.20		0				21.08	1.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138735

Run ID :Run Order: **SOIL DRYING OVEN 2_181003A: 8** SampType: **Sample Duplicate** Lab ID: **H18090303-056ADUP** Method: **D2974**

Analysis Date: **10/04/18 09:45** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181003A: 9** SampType: **Sample Duplicate** Lab ID: **H18090303-037ADUP** Method: **D2974**

Analysis Date: **10/04/18 09:45** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	23.7	0.20		0				23.28	**1.9**	20	

Associated samples: **H18090303-018A, H18090303-019A, H18090303-020A, H18090303-021A, H18090303-022A, H18090303-023A, H18090303-024A, H18090303-025A, H18090303-026A, H18090303-027A, H18090303-028A, H18090303-029A, H18090303-030A, H18090303-031A, H18090303-032A, H18090303-033A, H18090303-034A, H18090303-035A, H18090303-036A, H18090303-037A, H18090303-038A, H18090303-039A, H18090303-040A, H18090303-041A, H18090303-042A, H18090303-043A, H18090303-044A, H18090303-045A, H18090303-046A, H18090303-047A, H18090303-048A, H18090303-049A, H18090303-050A, H18090303-051A, H18090303-052A, H18090303-053A, H18090303-054A, H18090303-055A, H18090303-056A, H18090303-057A, H18090303-058A, H18090303-059A, H18090303-060A, H18090303-061A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138767

Run ID :Run Order: **ICP2-HE_181004B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **10/04/18 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.10	0.10	4	0	**102**	90	110				
Boron	0.797	0.10	0.8	0	**100**	90	110				
Cobalt	0.795	0.021	0.8	0	**99**	90	110				
Iron	4.02	0.030	4	0	**101**	90	110				
Manganese	4.01	0.010	4	0	**100**	90	110				
Vanadium	0.801	0.10	0.8	0	**100**	90	110				
Zinc	0.800	0.010	0.8	0	**100**	90	110				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **10/04/18 09:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536	0.10	500	0	**107**	80	120				
Boron	-0.00308	0.10		0		0	0				
Cobalt	-0.00515	0.021		0		0	0				
Iron	186	0.030	200	0	**93**	80	120				
Manganese	-0.00567	0.010		0		0	0				
Vanadium	-0.00249	0.10		0		0	0				
Zinc	0.00202	0.010		0		0	0				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Run ID :Run Order: **ICP2-HE_181004B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/04/18 09:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	527	0.10	500	0	**105**	80	120				
Boron	1.00	0.10	1	0	**100**	80	120				
Cobalt	0.456	0.021	0.5	0	**91**	80	120				
Iron	184	0.030	200	0	**92**	80	120				
Manganese	0.479	0.010	0.5	0	**96**	80	120				
Vanadium	0.492	0.10	0.5	0	**98**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: R138767

Run ID :Run Order: **ICP2-HE_181004B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **10/04/18 09:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	1.00	0.010	1	0	**100**	80	120				

Associated samples: **H18090303-032A, H18090303-035A, H18090303-038A, H18090303-041A, H18090303-044A, H18090303-047A, H18090303-050A, H18090303-053A, H18090303-056A, H18090303-059A, H18090303-062A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: TSS180914A

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 1** SampType: **Method Blank** Lab ID: **MB-1_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	92.0	10	100	0	92	80	120				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 4** SampType: **Sample Duplicate** Lab ID: **H18090285-001ADUP** Method: **A2540 D**

Analysis Date: **09/14/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	203	33		0				196.7	3.3	5	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 1** SampType: **Sample Duplicate** Lab ID: **H18090303-003ADUP** Method: **A2540 D**

Analysis Date: **09/14/18 14:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	3.71	10		0				3.286		5	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 2** SampType: **Method Blank** Lab ID: **MB-25_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18090303
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *05-Oct-18*

BatchID: TSS180914A

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 2** SampType: **Method Blank** Lab ID: **MB-25_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_180914A** Method: **A2540 D**

Analysis Date: **09/14/18 14:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	96.0	10	100	0	96	80	120				

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Run ID :Run Order: **ACCU-124 (14410200)_180914A: 2** SampType: **Sample Duplicate** Lab ID: **H18090303-017ADUP** Method: **A2540 D**

Analysis Date: **09/14/18 15:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	5.86	10		0				5.857		5	

Associated samples: **H18090303-001A, H18090303-002A, H18090303-003A, H18090303-004A, H18090303-005A, H18090303-006A, H18090303-007A, H18090303-008A, H18090303-009A, H18090303-010A, H18090303-011A, H18090303-012A, H18090303-013A, H18090303-014A, H18090303-015A, H18090303-016A, H18090303-017A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18090303

Login completed by: Jessica C. Smith
Date Received: 9/14/2018
Reviewed by: BL2000\rtooke
Received by: TLL
Reviewed Date: 9/18/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Cooler 1 was received at 1.0 °C, Cooler 2 at 0.2 °C, Cooler 3 at 0.6 °C, and Cooler 4 at 0.7 °C. On Ice. Box 1 was received at 7.0 °C and Box 2 at 7.4 °C. No Ice and no temperature blank. JCS 09/14/18

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C4	1 SS-06G	9-13-2018	1345	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18090303
C4	2 SS-07	9-13-2018	1315	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C4	3 SS-08	9-13-2018	1200	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box1 = 7.0
C3	4 SS-10A	9-13-2018	1115	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box2 = 7.4
C3	5 Field Blank #2 SS-10A	9-13-2018	1045	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 = 1.0
C3	6 SS-11C	9-13-2018	0945	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 = 0.3
C3	7 SS-11D	9-13-2018	0845	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 = 0.6
C3	8 SS-11D Duplicate	9-13-2018	0845	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C4 = 0.7
C1	9 SS-13	9-12-2018	1705	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	10 SS-14	9-12-2018	1615	5	W	✓	✓	✓	✓	✓	✓	✓	✓				

TB

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	9-14-2018 1120	Tanner Traxler	Tracy Carash	9/14/18 11:20	Tracy Carash
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Hand	Y	Y N C B	Y N	See Lab use only °C	Y N C B	Y N C B	CC Cash Check_____	$	

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

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Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C1	1 SS-15A-2	9-12-2018	1500	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18090303
C1	2 SS-15A-2 Duplicate	9-12-2018	1500	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C2	3 SS-15B	9-12-2018	1300	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box 1 = 7.0
C2	4 SS-16	9-12-2018	1100	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box 2 = 7.4
C2	5 SS-17D	9-12-2018	1015	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 = 1.0
C2	6 Field Blank #1 SS-17D	9-12-2018	0945	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 = 0.3
C2	7 SS-19	9-12-2018	0840	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 = 0.6
B1	8 SS-06G	9-13-2018	1345	1	S									✓			C4 = 0.7
B1	9 SS-07	9-13-2018	1315	1	S									✓			
B1	10 SS-08	9-13-2018	1200	1	S									✓			

TB

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	9-19-2018 1120	Tanner Traxler	Tracy Lovash	9/19/18 11:20	Tracy Lovash
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Hand	Y	Y (N) C B	Y N	See lab use only C	(Y) (N) C B	(Y) (N) C B	CC Cash Check_____	$	

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Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	1088
Bottle Order	26461

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
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Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

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	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
B1	1 SS-10A	9-13-2018	1115	1	S	✓			H18090303
	2 SS-11C	9-13-2018	0945	1	S	✓			
	3 SS-11D	9-13-2018	0845	1	S	✓			Box 1 = 7.0
	4 SS-11D Duplicate	9-13-2018	0845	1	S	✓			Box 2 = 7.4
B2	5 SS-13	9-12-2018	1705	1	S	✓			C1 = 1.0
B2	6 SS-14	9-12-2018	1615	1	S	✓			C2 = 0.3
	7 SS-15A-2	9-12-2018	1500	1	S	✓			C3 = 0.6 TB
B2	8 SS-15A-2 Duplicate	9-12-2018	1500	1	S	✓			C4 = 0.7
B2	9 SS-15B	9-12-2018	1300	1	S	✓			
B2	10 SS-16	9-12-2018	1100	1	S	✓			

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	9-14-2018 1120	Tanner Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Tracy Levan	9/14/18 11:20	Tracy Levan

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Hand	Y	Y (N) C B	Y N	Sa labs use only C	(Y) (N) C B	(Y) (N) C B	CC Cash Check_____	$	

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Page 4 of 4

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Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

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Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
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	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
B2 1	SS-17D	9-12-2018	1015	1	S	✓			~~Box~~ TL
B2 2	SS-19	9-12-2018	0840	1	S	✓			H18090303
3									
4									
5									Box1 = 7.0
6									Box2 = 7.4
7									C1 = 1.0
8									C2 = 0.3
9									C3 = 0.6 TB
10									C4 = 0.7

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	9-14-2018 1120	Tanner Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Tracy Lovat	9/14/18 11:20	Tracy Lovat

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Hand	Y	Y (N) C B	Y N	Sealable C use only	Y (N) C B	Y (N) C B	CC Cash Check	$	

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ANALYTICAL SUMMARY REPORT

October 24, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18100229 Quote ID: H1526 - Silver Bow Monitoring

Project Name: SSTOU Groundwater

Energy Laboratories Inc Helena MT received the following 8 samples for MT DEQ-Federal Superfund on 10/5/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18100229-001	LYS-01	10/02/18 14:31	10/05/18	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness Anions by Ion Chromatography Preparation, Dissolved Filtration MCAWW Mercury Digestion by E245.1
H18100229-002	LYS-02	10/02/18 14:48	10/05/18	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Mercury, Dissolved Hardness Anions by Ion Chromatography Preparation, Dissolved Filtration MCAWW Mercury Digestion by E245.1
H18100229-003	LYS-03	10/02/18 14:18	10/05/18	Groundwater	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Hardness Anions by Ion Chromatography Preparation, Dissolved Filtration MCAWW Mercury Digestion by E245.1
H18100229-004	LYS-04R	10/02/18 14:58	10/05/18	Groundwater	Same As Above
H18100229-005	LYS-05	10/02/18 15:05	10/05/18	Groundwater	Same As Above
H18100229-006	LYS-06	10/02/18 14:27	10/05/18	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness Anions by Ion Chromatography Preparation, Dissolved Filtration MCAWW Mercury Digestion by E245.1
H18100229-007	LYS-07	10/02/18 14:37	10/05/18	Groundwater	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Hardness Anions by Ion Chromatography Preparation, Dissolved Filtration MCAWW Mercury Digestion by E245.1
H18100229-008	LYS-08	10/02/18 14:10	10/05/18	Groundwater	Same As Above

ANALYTICAL SUMMARY REPORT

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: MT DEQ-Federal Superfund
Project: SSTOU Groundwater
Work Order: H18100229

Report Date: 10/24/18

CASE NARRATIVE

Due to insufficient sample volume the following samples were not analyzed for Alkalinity: Lys-03, Lys-04R, Lys-05, Lys-07 and Lys-08.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the calculated method detection limit (MDL). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-01
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-001
Collection Date: 10/02/18 14:31
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	160	mg/L		4	2	A2320 B	10/08/18 19:32 / SR			PHSC_101-H_181008A	346	R138808
Bicarbonate as HCO3	190	mg/L		4	2	A2320 B	10/08/18 19:32 / SR			PHSC_101-H_181008A	346	R138808
Chloride	40	mg/L		1	0.009	E300.0	10/09/18 14:56 / SR			IC METROHM_181001A	784	R138640
Sulfate	231	mg/L		1	0.01	E300.0	10/09/18 14:56 / SR			IC METROHM_181001A	784	R138640
Hardness as CaCO3	345	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	1	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Antimony	0.00010	mg/L	J	0.0005	0.00009	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Barium	0.044	mg/L		0.003	0.00002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Boron	0.059	mg/L	J	0.1	0.006	E200.7	10/10/18 14:40 / sld	10/09/18 11:21		ICP2-HE_181010A	31	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Calcium	103	mg/L		1	0.07	E200.7	10/10/18 14:40 / sld	10/09/18 11:21		ICP2-HE_181010A	31	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Copper	0.0008	mg/L	J	0.001	0.0001	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Lead	0.00009	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Magnesium	22	mg/L		1	0.1	E200.7	10/10/18 14:40 / sld	10/09/18 11:21		ICP2-HE_181010A	31	R138906
Manganese	0.003	mg/L		0.001	0.0003	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Mercury	2.0E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 13:40 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	21	43483
Molybdenum	0.0049	mg/L	J	0.005	0.00002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 14:40 / sld	10/09/18 11:21		ICP2-HE_181010A	31	R138906
Selenium	0.004	mg/L		0.001	0.00002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Sodium	35	mg/L		1	0.02	E200.7	10/10/18 14:40 / sld	10/09/18 11:21		ICP2-HE_181010A	31	R138906
Uranium	0.0814	mg/L		0.0002	0.00001	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Vanadium	0.0024	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895
Zinc	0.0044	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	40	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-02
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-002
Collection Date: 10/02/18 14:48
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	870	mg/L		4	2	A2320 B	10/08/18 19:40 / SR			PHSC_101-H_181008A	348	R138808
Bicarbonate as HCO3	1100	mg/L		4	2	A2320 B	10/08/18 19:40 / SR			PHSC_101-H_181008A	348	R138808
Chloride	177	mg/L		1	0.09	E300.0	10/09/18 15:10 / SR			IC METROHM_181001A	785	R138640
Sulfate	7940	mg/L	D	2	0.2	E300.0	10/10/18 18:39 / SR			IC METROHM_181001A	894	R138640
Hardness as CaCO3	2430	mg/L		1	1	A2340 B	10/14/18 20:01 / sld			WATERCALC_181014B	2	R138989
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Antimony	0.0009	mg/L		0.0005	0.00009	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Arsenic	0.024	mg/L		0.001	0.00004	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Barium	0.015	mg/L		0.003	0.00002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Boron	0.7	mg/L		0.1	0.006	E200.7	10/10/18 14:51 / sld	10/09/18 11:21		ICP2-HE_181010A	34	R138906
Cadmium	0.00007	mg/L		0.00003	0.00003	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Calcium	457	mg/L		1	0.07	E200.7	10/10/18 14:51 / sld	10/09/18 11:21		ICP2-HE_181010A	34	R138906
Chromium	0.0026	mg/L	J	0.01	0.0002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Copper	0.012	mg/L		0.001	0.0001	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Iron	0.003	mg/L	J	0.02	0.002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Lead	0.00024	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Magnesium	313	mg/L		1	0.1	E200.7	10/10/18 14:51 / sld	10/09/18 11:21		ICP2-HE_181010A	34	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Mercury	6.2E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 18:15 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	92	43483
Molybdenum	0.054	mg/L		0.005	0.00002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Nickel	0.0011	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Potassium	3	mg/L		1	0.06	E200.7	10/10/18 14:51 / sld	10/09/18 11:21		ICP2-HE_181010A	34	R138906
Selenium	0.035	mg/L		0.001	0.00002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Sodium	3270	mg/L	D	8	8	E200.7	10/12/18 14:23 / sld	10/09/18 11:21		ICP2-HE_181012B	34	R138988
Uranium	1.66	mg/L		0.0002	0.0001	E200.8	10/11/18 18:19 / sld	10/09/18 11:21		ICPMS205-H_181011B	86	R138957
Vanadium	0.039	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895
Zinc	0.014	mg/L		0.008	0.0003	E200.8	10/10/18 12:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	41	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-03
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-003
Collection Date: 10/02/18 14:18
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Chloride	0.21	mg/L	J	1	0.09	E300.0	10/09/18 15:24 / SR			IC METROHM_181001A	786	R138640
Sulfate	102	mg/L		1	0.1	E300.0	10/09/18 15:24 / SR			IC METROHM_181001A	786	R138640
Hardness as CaCO3	177	mg/L		1	1	A2340 B	10/14/18 17:36 / sld			WATERCALC_181014A	1	R138986
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Antimony	0.0009	mg/L		0.0005	0.00009	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Arsenic	0.231	mg/L		0.001	0.00004	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Barium	0.061	mg/L		0.003	0.00002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Boron	0.3	mg/L		0.1	0.006	E200.7	10/10/18 14:56 / sld	10/09/18 11:21		ICP2-HE_181010A	35	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Calcium	52	mg/L		1	0.07	E200.7	10/10/18 14:56 / sld	10/09/18 11:21		ICP2-HE_181010A	35	R138906
Chromium	0.0035	mg/L	J	0.01	0.0002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Cobalt	0.00012	mg/L	J	0.01	0.00009	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Copper	0.003	mg/L		0.001	0.0001	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Lead	0.00005	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Magnesium	12	mg/L		1	0.1	E200.7	10/10/18 14:56 / sld	10/09/18 11:21		ICP2-HE_181010A	35	R138906
Manganese	0.003	mg/L		0.001	0.0003	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Mercury	3.4E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 13:47 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	23	43483
Molybdenum	0.042	mg/L		0.005	0.00002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Potassium	2	mg/L		1	0.06	E200.7	10/10/18 14:56 / sld	10/09/18 11:21		ICP2-HE_181010A	35	R138906
Selenium	0.001	mg/L		0.001	0.00002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Sodium	70	mg/L		1	0.02	E200.7	10/10/18 14:56 / sld	10/09/18 11:21		ICP2-HE_181010A	35	R138906
Uranium	0.0063	mg/L		0.0002	0.00001	E200.8	10/11/18 18:21 / sld	10/09/18 11:21		ICPMS205-H_181011B	87	R138957
Vanadium	0.1	mg/L		0.1	0.00007	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895
Zinc	0.0030	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	42	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-04R
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-004
Collection Date: 10/02/18 14:58
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Chloride	28	mg/L		1	0.02	E300.0	10/09/18 15:38 / SR			IC METROHM_181001A	787	R138640
Sulfate	281	mg/L		1	0.02	E300.0	10/09/18 15:38 / SR			IC METROHM_181001A	787	R138640
Hardness as CaCO3	575	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	2	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Antimony	0.0007	mg/L		0.0005	0.00009	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Barium	0.117	mg/L		0.003	0.00002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Boron	0.3	mg/L		0.1	0.006	E200.7	10/10/18 14:59 / sld	10/09/18 11:21		ICP2-HE_181010A	36	R138906
Cadmium	0.00005	mg/L		0.00003	0.00003	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Calcium	135	mg/L		1	0.07	E200.7	10/10/18 14:59 / sld	10/09/18 11:21		ICP2-HE_181010A	36	R138906
Chromium	0.0008	mg/L	J	0.01	0.0002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Cobalt	0.00018	mg/L	J	0.01	0.00009	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Copper	0.005	mg/L		0.001	0.0001	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Lead	0.00009	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Magnesium	58	mg/L		1	0.1	E200.7	10/10/18 14:59 / sld	10/09/18 11:21		ICP2-HE_181010A	36	R138906
Manganese	0.020	mg/L		0.001	0.0003	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Mercury	3.4E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 13:50 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	24	43483
Molybdenum	0.014	mg/L		0.005	0.00002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Nickel	0.0020	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Potassium	30	mg/L		1	0.06	E200.7	10/10/18 14:59 / sld	10/09/18 11:21		ICP2-HE_181010A	36	R138906
Selenium	0.005	mg/L		0.001	0.00002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Sodium	16	mg/L		1	0.02	E200.7	10/10/18 14:59 / sld	10/09/18 11:21		ICP2-HE_181010A	36	R138906
Uranium	0.0252	mg/L		0.0002	0.00001	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Vanadium	0.046	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895
Zinc	0.0058	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	43	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-05
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-005
Collection Date: 10/02/18 15:05
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Chloride	7	mg/L		1	0.09	E300.0	10/09/18 17:03 / SR			IC METROHM_181001A	792	R138640
Sulfate	4170	mg/L		1	0.1	E300.0	10/09/18 17:03 / SR			IC METROHM_181001A	792	R138640
Hardness as CaCO3	1550	mg/L		1	1	A2340 B	10/14/18 17:36 / sld			WATERCALC_181014A	2	R138986
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Antimony	0.0016	mg/L		0.0005	0.00009	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Arsenic	0.021	mg/L		0.001	0.00004	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Barium	0.014	mg/L		0.003	0.00002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Boron	1.6	mg/L		0.1	0.006	E200.7	10/10/18 15:03 / sld	10/09/18 11:21		ICP2-HE_181010A	37	R138906
Cadmium	0.00014	mg/L		0.00003	0.00003	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Calcium	418	mg/L		1	0.07	E200.7	10/10/18 15:03 / sld	10/09/18 11:21		ICP2-HE_181010A	37	R138906
Chromium	0.0030	mg/L	J	0.01	0.0002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Copper	0.010	mg/L		0.001	0.0001	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Lead	0.00003	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Magnesium	124	mg/L		1	0.1	E200.7	10/10/18 15:03 / sld	10/09/18 11:21		ICP2-HE_181010A	37	R138906
Manganese	0.0008	mg/L	J	0.001	0.0003	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Mercury	5.8E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 18:18 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	93	43483
Molybdenum	0.026	mg/L		0.005	0.00002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Potassium	22	mg/L		1	0.06	E200.7	10/10/18 15:03 / sld	10/09/18 11:21		ICP2-HE_181010A	37	R138906
Selenium	0.004	mg/L		0.001	0.00002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Sodium	1200	mg/L		1	0.8	E200.7	10/10/18 15:03 / sld	10/09/18 11:21		ICP2-HE_181010A	37	R138906
Uranium	1.60	mg/L		0.0002	0.0001	E200.8	10/11/18 18:23 / sld	10/09/18 11:21		ICPMS205-H_181011B	88	R138957
Vanadium	0.0055	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895
Zinc	0.012	mg/L		0.008	0.0003	E200.8	10/10/18 12:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	44	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-06
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-006
Collection Date: 10/02/18 14:27
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	10/08/18 19:50 / SR			PHSC_101-H_181008A	350	R138808
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	10/08/18 19:50 / SR			PHSC_101-H_181008A	350	R138808
Chloride	21	mg/L		1	0.009	E300.0	10/09/18 17:17 / SR			IC METROHM_181001A	793	R138640
Sulfate	145	mg/L		1	0.01	E300.0	10/09/18 17:17 / SR			IC METROHM_181001A	793	R138640
Hardness as CaCO3	167	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	3	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Antimony	0.00028	mg/L	J	0.0005	0.00009	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Barium	0.047	mg/L		0.003	0.00002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Boron	0.2	mg/L		0.1	0.006	E200.7	10/10/18 15:07 / sld	10/09/18 11:21		ICP2-HE_181010A	38	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Calcium	51	mg/L		1	0.07	E200.7	10/10/18 15:07 / sld	10/09/18 11:21		ICP2-HE_181010A	38	R138906
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Copper	0.002	mg/L		0.001	0.0001	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Lead	0.00003	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Magnesium	9	mg/L		1	0.1	E200.7	10/10/18 15:07 / sld	10/09/18 11:21		ICP2-HE_181010A	38	R138906
Manganese	0.0005	mg/L	J	0.001	0.0003	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Mercury	2.6E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:03 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	28	43483
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Nickel	0.0002	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Potassium	0.12	mg/L	J	1	0.06	E200.7	10/10/18 15:07 / sld	10/09/18 11:21		ICP2-HE_181010A	38	R138906
Selenium	0.00046	mg/L	J	0.001	0.00002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Sodium	55	mg/L		1	0.02	E200.7	10/10/18 15:07 / sld	10/09/18 11:21		ICP2-HE_181010A	38	R138906
Uranium	0.0046	mg/L		0.0002	0.00001	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Vanadium	0.019	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895
Zinc	0.0041	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	51	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-07
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-007
Collection Date: 10/02/18 14:37
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Chloride	66	mg/L		1	0.2	E300.0	10/09/18 17:31 / SR			IC METROHM_181001A	794	R138640
Sulfate	1890	mg/L	D	2	0.2	E300.0	10/09/18 17:31 / SR			IC METROHM_181001A	794	R138640
Hardness as CaCO3	805	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	4	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Antimony	0.00041	mg/L	J	0.0005	0.00009	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Barium	0.009	mg/L		0.003	0.00002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Boron	0.3	mg/L		0.1	0.01	E200.7	10/10/18 19:51 / sld	10/09/18 14:17		ICP2-HE_181010A	113	R138906
Cadmium	0.00004	mg/L		0.00003	0.00003	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Calcium	232	mg/L		1	0.1	E200.7	10/10/18 19:51 / sld	10/09/18 14:17		ICP2-HE_181010A	113	R138906
Chromium	0.0019	mg/L	J	0.01	0.0002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Cobalt	0.00009	mg/L	J	0.01	0.00009	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Copper	0.008	mg/L		0.001	0.0001	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Lead	0.0005	mg/L		0.0003	0.00003	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Magnesium	55	mg/L		1	0.3	E200.7	10/10/18 19:51 / sld	10/09/18 14:17		ICP2-HE_181010A	113	R138906
Manganese	0.001	mg/L		0.001	0.0003	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Mercury	ND	mg/L		5E-06	1E-06	E245.1	10/18/18 18:25 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	95	43483
Molybdenum	0.111	mg/L		0.005	0.00002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Potassium	10	mg/L		1	0.1	E200.7	10/10/18 19:51 / sld	10/09/18 14:17		ICP2-HE_181010A	113	R138906
Selenium	0.002	mg/L		0.001	0.00002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Sodium	547	mg/L		1	0.03	E200.7	10/10/18 19:51 / sld	10/09/18 14:17		ICP2-HE_181010A	113	R138906
Uranium	0.370	mg/L		0.0002	0.00001	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Vanadium	0.0054	mg/L	J	0.1	0.00007	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895
Zinc	0.012	mg/L		0.008	0.0003	E200.8	10/10/18 15:13 / sld	10/09/18 14:17		ICPMS205-H_181010A	124	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYS-08
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100229-008
Collection Date: 10/02/18 14:10
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Chloride	67	mg/L		1	0.2	E300.0	10/09/18 17:45 / SR			IC METROHM_181001A	795	R138640
Sulfate	2060	mg/L	D	2	0.2	E300.0	10/09/18 17:45 / SR			IC METROHM_181001A	795	R138640
Hardness as CaCO3	1790	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	5	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Antimony	0.00023	mg/L	J	0.0005	0.00009	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Barium	0.010	mg/L		0.003	0.00002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Boron	0.1	mg/L		0.1	0.01	E200.7	10/10/18 19:55 / sld	10/09/18 14:17		ICP2-HE_181010A	114	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Calcium	326	mg/L		1	0.1	E200.7	10/10/18 19:55 / sld	10/09/18 14:17		ICP2-HE_181010A	114	R138906
Chromium	0.0006	mg/L	J	0.01	0.0002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Copper	0.002	mg/L		0.001	0.0001	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Iron	0.003	mg/L	J	0.02	0.002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Magnesium	236	mg/L		1	0.3	E200.7	10/10/18 19:55 / sld	10/09/18 14:17		ICP2-HE_181010A	114	R138906
Manganese	0.0008	mg/L	J	0.001	0.0003	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Mercury	1.8E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 18:28 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	96	43483
Molybdenum	0.008	mg/L		0.005	0.00002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Potassium	7	mg/L		1	0.1	E200.7	10/10/18 19:55 / sld	10/09/18 14:17		ICP2-HE_181010A	114	R138906
Selenium	0.019	mg/L		0.001	0.00002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Sodium	256	mg/L		1	0.03	E200.7	10/10/18 19:55 / sld	10/09/18 14:17		ICP2-HE_181010A	114	R138906
Uranium	0.253	mg/L		0.0002	0.00001	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Vanadium	0.037	mg/L	J	0.1	0.00007	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895
Zinc	0.0024	mg/L	J	0.008	0.0003	E200.8	10/10/18 15:15 / sld	10/09/18 14:17		ICPMS205-H_181010A	125	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 181018wa-hg202

Run ID :Run Order: **HGCV202-H_181018A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 13:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	**101**	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 16:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	**106**	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 43483

Run ID :Run Order: **HGCV202-H_181018A: 12** SampType: **Method Blank** Lab ID: **MB-43483** Method: **E245.1**
Analysis Date: **10/18/18 13:07** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 13** SampType: **Laboratory Control Sample** Lab ID: **LCS-43483** Method: **E245.1**
Analysis Date: **10/18/18 13:10** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.66E-05	0.00010	0.000075	0	102	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 18** SampType: **Sample Matrix Spike** Lab ID: **H18100162-001BMS** Method: **E245.1**
Analysis Date: **10/18/18 13:30** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.81E-05	5.0E-06	0.000075	0.00000164	102	70	130				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100162-001BMSD** Method: **E245.1**
Analysis Date: **10/18/18 13:34** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.63E-05	5.0E-06	0.000075	0.00000164	100	70	130	0.00007811	2.3	20	

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **10/01/18 09:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **10/01/18 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	95.1	1.0	100	0	95	90	110				
Sulfate	370	1.0	400	0	93	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **10/01/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.4	1.0	25	0	94	90	110				
Sulfate	92.6	1.0	100	0	93	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 776** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **10/09/18 12:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.7	1.0	50	0	105	90	110				
Sulfate	214	1.0	200	0	107	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 788** SampType: **Sample Matrix Spike** Lab ID: **H18100229-004AMS** Method: **E300.0**
Analysis Date: **10/09/18 15:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	80.3	1.0	50	27.64	105	90	110				
Sulfate	485	1.0	200	280.7	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 788** SampType: **Sample Matrix Spike** Lab ID: **H18100229-004AMS** Method: **E300.0**
Analysis Date: **10/09/18 15:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 789** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-004AMSD** Method: **E300.0**
Analysis Date: **10/09/18 16:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	80.2	1.0	50	27.64	105	90	110	80.27	0.1	20	
Sulfate	485	1.0	200	280.7	102	90	110	485.1	0.1	20	

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 790** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **10/09/18 16:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.0	1.0	50	0	106	90	110				
Sulfate	215	1.0	200	0	107	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 802** SampType: **Sample Matrix Spike** Lab ID: **H18100230-006AMS** Method: **E300.0**
Analysis Date: **10/09/18 19:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.1	1.0	25	20.28	107	90	110				
Sulfate	385	1.0	100	279	106	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 803** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-006AMSD** Method: **E300.0**
Analysis Date: **10/09/18 19:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.7	1.0	25	20.28	106	90	110	47.09	0.8	20	
Sulfate	381	1.0	100	279	102	90	110	385.2	1.1	20	

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 888** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/10/18 17:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.2	1.0	50	0	102	90	110				
Sulfate	202	1.0	200	0	101	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 900** SampType: **Sample Matrix Spike** Lab ID: **H18100298-001AMS** Method: **E300.0**

Analysis Date: **10/10/18 20:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	27.0	1.0	25	1.528	102	90	110				
Sulfate	473	1.0	100	370.2	103	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Run ID :Run Order: **IC METROHM_181001A: 901** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100298-001AMSD** Method: **E300.0**

Analysis Date: **10/10/18 20:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.9	1.0	25	1.528	101	90	110	26.99	0.3	20	
Sulfate	480	1.0	100	370.2	109	90	110	472.9	1.4	20	

Associated samples: **H18100229-001A, H18100229-002A, H18100229-003A, H18100229-004A, H18100229-005A, H18100229-006A, H18100229-007A, H18100229-008A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138808

Run ID :Run Order: **PHSC_101-H_181008A: 318** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **10/08/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18100229-001A, H18100229-002A, H18100229-006A**

Run ID :Run Order: **PHSC_101-H_181008A: 319** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **10/08/18 17:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	**101**	90	110				

Associated samples: **H18100229-001A, H18100229-002A, H18100229-006A**

Run ID :Run Order: **PHSC_101-H_181008A: 322** SampType: **Sample Duplicate** Lab ID: **H18100223-006ADUP** Method: **A2320 B**

Analysis Date: **10/08/18 18:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	76	4.0		0				75.4	**1.1**	10	
Bicarbonate as HCO3	92	4.0		0				91.38	**1.1**	10	

Associated samples: **H18100229-001A, H18100229-002A, H18100229-006A**

Run ID :Run Order: **PHSC_101-H_181008A: 362** SampType: **Sample Duplicate** Lab ID: **H18100230-005ADUP** Method: **A2320 B**

Analysis Date: **10/08/18 20:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	43	4.0		0				41.27	**4.3**	10	
Bicarbonate as HCO3	52	4.0		0				49.53	**4.3**	10	

Associated samples: **H18100229-001A, H18100229-002A, H18100229-006A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **10/10/18 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0651	0.050	0.06	0	109	90	110				
Arsenic	0.0610	0.0050	0.06	0	102	90	110				
Barium	0.0626	0.10	0.06	0	104	90	110				
Beryllium	0.0291	0.0010	0.03	0	97	90	110				
Cadmium	0.0315	0.0010	0.03	0	105	90	110				
Chromium	0.0614	0.010	0.06	0	102	90	110				
Cobalt	0.0615	0.010	0.06	0	103	90	110				
Copper	0.0619	0.010	0.06	0	103	90	110				
Iron	0.318	0.020	0.3	0	106	90	110				
Lead	0.0609	0.010	0.06	0	102	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0623	0.0050	0.06	0	104	90	110				
Nickel	0.0614	0.010	0.06	0	102	90	110				
Selenium	0.0606	0.0050	0.06	0	101	90	110				
Silver	0.0313	0.0050	0.03	0	104	90	110				
Uranium	0.0580	0.00030	0.06	0	97	90	110				
Vanadium	0.0608	0.10	0.06	0	101	90	110				
Zinc	0.0625	0.010	0.06	0	104	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICPMS205-H_181010A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **10/10/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.7	0.10	40	0	104	70	130				
Antimony	0.000252	0.050		0							
Arsenic	7.10E-05	0.0050		0							
Barium	9.10E-05	0.10		0							
Beryllium	1.87E-05	0.0010		0							
Cadmium	0.000185	0.0010		0							
Chromium	0.00126	0.010		0							
Cobalt	1.06E-05	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **10/10/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000221	0.010		0							
Iron	104	0.020	100	0	104	70	130				
Lead	0.000120	0.010		0							
Manganese	0.000204	0.010		0							
Molybdenum	0.851	0.0050	0.8	0	106	70	130				
Nickel	0.000149	0.010		0							
Selenium	8.64E-05	0.0050		0							
Silver	0.000126	0.0050		0							
Uranium	1.56E-05	0.00030		0							
Vanadium	2.39E-05	0.10		0							
Zinc	0.000380	0.010		0							

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICPMS205-H_181010A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **10/10/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.2	0.10	40	0	105	70	130				
Antimony	0.000124	0.050		0		0	0				
Arsenic	0.0107	0.0050	0.01	0	107	70	130				
Barium	5.17E-05	0.10		0		0	0				
Beryllium	-5.60E-06	0.0010		0		0	0				
Cadmium	0.0105	0.0010	0.01	0	105	70	130				
Chromium	0.0220	0.010	0.02	0	110	70	130				
Cobalt	0.0207	0.010	0.02	0	104	70	130				
Copper	0.0206	0.010	0.02	0	103	70	130				
Iron	106	0.020	100	0	106	70	130				
Lead	9.58E-05	0.010		0		0	0				
Manganese	0.0210	0.010	0.02	0	105	70	130				
Molybdenum	0.869	0.0050	0.8	0	109	70	130				
Nickel	0.0209	0.010	0.02	0	105	70	130				
Selenium	0.00984	0.0050	0.01	0	98	70	130				
Silver	0.0201	0.0050	0.02	0	101	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **10/10/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	3.90E-06	0.00030		0		0	0				
Vanadium	0.0208	0.10	0.02	0	104	70	130				
Zinc	0.0105	0.010	0.01	0	105	70	130				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICPMS205-H_181010A: 35** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **10/10/18 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	ND	0.002									
Lead	3E-05	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 36** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **10/10/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.10	0.05	0	102	85	115				
Antimony	0.0526	0.050	0.05	0	105	85	115				
Arsenic	0.0510	0.0050	0.05	0	102	85	115				
Barium	0.0509	0.10	0.05	0	102	85	115				
Beryllium	0.0483	0.0010	0.05	0	97	85	115				
Cadmium	0.0514	0.0010	0.05	0	103	85	115				
Chromium	0.0507	0.010	0.05	0	101	85	115				
Cobalt	0.0509	0.010	0.05	0	102	85	115				
Copper	0.0518	0.010	0.05	0	104	85	115				
Iron	0.156	0.020	0.15	0	104	85	115				
Lead	0.0504	0.010	0.05	0.00003073	101	85	115				
Manganese	0.0508	0.010	0.05	0	102	85	115				
Molybdenum	0.0494	0.0050	0.05	0	99	85	115				
Nickel	0.0516	0.010	0.05	0	103	85	115				
Selenium	0.0504	0.0050	0.05	0	101	85	115				
Silver	0.0207	0.0050	0.02	0	103	85	115				
Uranium	0.0504	0.00030	0.05	0	101	85	115				
Vanadium	0.0498	0.10	0.05	0	100	85	115				
Zinc	0.0530	0.010	0.05	0	106	85	115				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICPMS205-H_181010A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18100229-001BMS** Method: **E200.8**

Analysis Date: **10/10/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0533	0.030	0.05	0	107	70	130				
Antimony	0.0559	0.0010	0.05	0.000103	112	70	130				
Arsenic	0.0586	0.0010	0.05	0.003646	110	70	130				
Barium	0.0960	0.050	0.05	0.0445	103	70	130				
Beryllium	0.0474	0.0010	0.05	0	95	70	130				
Cadmium	0.0534	0.0010	0.05	0	107	70	130				
Chromium	0.0511	0.0050	0.05	0	102	70	130				
Cobalt	0.0513	0.0050	0.05	0	103	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18100229-001BMS** Method: **E200.8**

Analysis Date: **10/10/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0526	0.0050	0.05	0.0007665	104	70	130				
Iron	0.156	0.020	0.15	0	104	70	130				
Lead	0.0533	0.0010	0.05	0.0000898	106	70	130				
Manganese	0.0537	0.0010	0.05	0.00264	102	70	130				
Molybdenum	0.0576	0.0010	0.05	0.004879	105	70	130				
Nickel	0.0512	0.0050	0.05	0	102	70	130				
Selenium	0.0599	0.0010	0.05	0.003934	112	70	130				
Silver	0.0211	0.0010	0.02	0	106	70	130				
Uranium	0.136	0.00030	0.05	0.08142	110	70	130				
Vanadium	0.0534	0.010	0.05	0.002442	102	70	130				
Zinc	0.0561	0.010	0.05	0.004441	103	70	130				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICPMS205-H_181010A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-001BMSD** Method: **E200.8**

Analysis Date: **10/10/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0533	0.030	0.05	0	107	70	130	0.05328	0.1	20	
Antimony	0.0557	0.0010	0.05	0.000103	111	70	130	0.0559	0.3	20	
Arsenic	0.0584	0.0010	0.05	0.003646	109	70	130	0.05856	0.4	20	
Barium	0.0964	0.050	0.05	0.0445	104	70	130	0.09597	0.4	20	
Beryllium	0.0487	0.0010	0.05	0	97	70	130	0.04735	2.9	20	
Cadmium	0.0536	0.0010	0.05	0	107	70	130	0.05343	0.4	20	
Chromium	0.0510	0.0050	0.05	0	102	70	130	0.05112	0.3	20	
Cobalt	0.0511	0.0050	0.05	0	102	70	130	0.05126	0.4	20	
Copper	0.0523	0.0050	0.05	0.0007665	103	70	130	0.05261	0.7	20	
Iron	0.157	0.020	0.15	0	105	70	130	0.1562	0.4	20	
Lead	0.0522	0.0010	0.05	0.0000898	104	70	130	0.05328	2.0	20	
Manganese	0.0538	0.0010	0.05	0.00264	102	70	130	0.05371	0.1	20	
Molybdenum	0.0576	0.0010	0.05	0.004879	105	70	130	0.05759	0.0	20	
Nickel	0.0511	0.0050	0.05	0	102	70	130	0.05122	0.3	20	
Selenium	0.0601	0.0010	0.05	0.003934	112	70	130	0.0599	0.4	20	
Silver	0.0213	0.0010	0.02	0	106	70	130	0.02113	0.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-001BMSD** Method: **E200.8**

Analysis Date: **10/10/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.135	0.00030	0.05	0.08142	107	70	130	0.1363	1.2	20	
Vanadium	0.0531	0.010	0.05	0.002442	101	70	130	0.05337	0.5	20	
Zinc	0.0564	0.010	0.05	0.004441	104	70	130	0.05608	0.6	20	

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICPMS205-H_181010A: 131** SampType: **Sample Matrix Spike** Lab ID: **H18100253-004BMS** Method: **E200.8**

Analysis Date: **10/10/18 15:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0552	0.030	0.05	0	110	70	130				
Antimony	0.0561	0.0010	0.05	0	112	70	130				
Arsenic	0.0559	0.0010	0.05	0.0001146	112	70	130				
Barium	0.0851	0.050	0.05	0.03283	104	70	130				
Beryllium	0.0517	0.0010	0.05	0	103	70	130				
Cadmium	0.0561	0.0010	0.05	0.001442	109	70	130				
Chromium	0.0533	0.0050	0.05	0	107	70	130				
Cobalt	0.0537	0.0050	0.05	0	107	70	130				
Copper	0.0554	0.0050	0.05	0.001441	108	70	130				
Iron	0.166	0.020	0.15	0	111	70	130				
Lead	0.0536	0.0010	0.05	0	107	70	130				
Manganese	0.0534	0.0010	0.05	0	107	70	130				
Molybdenum	0.0528	0.0010	0.05	0.0002032	105	70	130				
Nickel	0.0545	0.0050	0.05	0.0004929	108	70	130				
Selenium	0.0573	0.0010	0.05	0.000107	114	70	130				
Silver	0.0215	0.0010	0.02	0	108	70	130				
Uranium	0.0582	0.00030	0.05	0.002883	111	70	130				
Vanadium	0.0523	0.010	0.05	0	105	70	130				
Zinc	0.379	0.010	0.05	0.3273		70	130				A

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 132** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100253-004BMSD** Method: **E200.8**

Analysis Date: **10/10/18 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0548	0.030	0.05	0	**110**	70	130	0.05523	**0.7**	20	
Antimony	0.0564	0.0010	0.05	0	**113**	70	130	0.05609	**0.5**	20	
Arsenic	0.0556	0.0010	0.05	0.0001146	**111**	70	130	0.05593	**0.6**	20	
Barium	0.0864	0.050	0.05	0.03283	**107**	70	130	0.08508	**1.6**	20	
Beryllium	0.0508	0.0010	0.05	0	**102**	70	130	0.05172	**1.8**	20	
Cadmium	0.0566	0.0010	0.05	0.001442	**110**	70	130	0.05611	**0.9**	20	
Chromium	0.0529	0.0050	0.05	0	**106**	70	130	0.05333	**0.9**	20	
Cobalt	0.0533	0.0050	0.05	0	**107**	70	130	0.05367	**0.8**	20	
Copper	0.0550	0.0050	0.05	0.001441	**107**	70	130	0.0554	**0.7**	20	
Iron	0.164	0.020	0.15	0	**109**	70	130	0.1659	**1.3**	20	
Lead	0.0545	0.0010	0.05	0	**109**	70	130	0.05363	**1.5**	20	
Manganese	0.0532	0.0010	0.05	0	**106**	70	130	0.05345	**0.5**	20	
Molybdenum	0.0531	0.0010	0.05	0.0002032	**106**	70	130	0.0528	**0.6**	20	
Nickel	0.0540	0.0050	0.05	0.0004929	**107**	70	130	0.05453	**1.1**	20	
Selenium	0.0573	0.0010	0.05	0.000107	**114**	70	130	0.05734	**0.1**	20	
Silver	0.0218	0.0010	0.02	0	**109**	70	130	0.02155	**1.3**	20	
Uranium	0.0594	0.00030	0.05	0.002883	**113**	70	130	0.05825	**2.0**	20	
Vanadium	0.0521	0.010	0.05	0	**104**	70	130	0.05233	**0.5**	20	
Zinc	0.380	0.010	0.05	0.3273		70	130	0.3787	**0.4**	20	A

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **10/10/18 13:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.765	0.10	0.8	0	**96**	95	105				
Calcium	38.7	1.0	40	0	**97**	95	105				
Magnesium	38.5	1.0	40	0	**96**	95	105				
Potassium	41.6	1.0	40	0	**104**	95	105				
Sodium	42.0	1.0	40	0	**105**	95	105				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **10/10/18 13:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.767	0.10	0.8	0	**96**	95	105				
Calcium	39.1	1.0	40	0	**98**	95	105				
Magnesium	38.9	1.0	40	0	**97**	95	105				
Potassium	40.1	1.0	40	0	**100**	95	105				
Sodium	40.4	1.0	40	0	**101**	95	105				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **10/10/18 13:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	**97**	95	105				
Calcium	25.1	1.0	25	0	**100**	95	105				
Magnesium	24.5	1.0	25	0	**98**	95	105				
Potassium	24.7	1.0	25	0	**99**	95	105				
Sodium	24.6	1.0	25	0	**98**	95	105				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **10/10/18 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00346	0.10		0		0	0				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **10/10/18 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	473	1.0	500	0	95	80	120				
Magnesium	521	1.0	500	0	104	80	120				
Potassium	-0.0352	1.0		0		0	0				
Sodium	0.0326	1.0		0		0	0				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **10/10/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.955	0.10	1	0	95	80	120				
Calcium	469	1.0	500	0	94	80	120				
Magnesium	517	1.0	500	0	103	80	120				
Potassium	19.9	1.0	20	0	100	80	120				
Sodium	19.9	1.0	20	0	99	80	120				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 15** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **10/10/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 16** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **10/10/18 13:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.962	0.10	1	0	96	85	115				
Calcium	51.7	1.0	50	0	103	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 16** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **10/10/18 13:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	51.9	1.0	50	0	104	85	115				
Potassium	53.6	1.0	50	0	107	85	115				
Sodium	54.2	1.0	50	0	108	85	115				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.38	0.10	2.5	0	95	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Magnesium	24.1	1.0	25	0	97	90	110				
Potassium	26.0	1.0	25	0	104	90	110				
Sodium	26.2	1.0	25	0	105	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 28** SampType: **Sample Matrix Spike** Lab ID: **H18100188-001BMS2** Method: **E200.7**

Analysis Date: **10/10/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.935	0.050	1	0	93	70	130				
Calcium	234	1.0	50	174.5	119	70	130				
Magnesium	176	1.0	50	114.4	123	70	130				
Potassium	71.3	1.0	50	16.99	109	70	130				
Sodium	142	1.0	50	85.63	112	70	130				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100188-001BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.943	0.050	1	0	94	70	130	0.9347	0.8	20	
Calcium	239	1.0	50	174.5	130	70	130	234.1	2.2	20	
Magnesium	179	1.0	50	114.4	129	70	130	175.8	1.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100188-001BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	73.2	1.0	50	16.99	**113**	70	130	71.33	**2.7**	20	
Sodium	149	1.0	50	85.63	**127**	70	130	141.5	**5.4**	20	

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 32** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 14:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.50	0.10	2.5	0	**100**	90	110				
Calcium	25.2	1.0	25	0	**101**	90	110				
Magnesium	24.7	1.0	25	0	**99**	90	110				
Potassium	24.9	1.0	25	0	**99**	90	110				
Sodium	24.9	1.0	25	0	**100**	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 40** SampType: **Sample Matrix Spike** Lab ID: **H18100229-006BMS2** Method: **E200.7**

Analysis Date: **10/10/18 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.1509	**90**	70	130				
Calcium	106	1.0	50	51.3	**109**	70	130				
Magnesium	64.0	1.0	50	9.352	**109**	70	130				
Potassium	54.6	1.0	50	0.1163	**109**	70	130				
Sodium	110	1.0	50	55.02	**110**	70	130				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-006BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 15:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.08	0.050	1	0.1509	**93**	70	130	1.054	**2.4**	20	
Calcium	106	1.0	50	51.3	**109**	70	130	106	**0.1**	20	
Magnesium	63.4	1.0	50	9.352	**108**	70	130	63.97	**1.0**	20	
Potassium	54.2	1.0	50	0.1163	**108**	70	130	54.59	**0.7**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-006BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 15:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	111	1.0	50	55.02	111	70	130	109.9	0.6	20	

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 108** SampType: **Sample Matrix Spike** Lab ID: **H18100230-039BMS2** Method: **E200.7**

Analysis Date: **10/10/18 19:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.980	0.050	1	0	98	70	130				
Calcium	50.9	1.0	50	0	102	70	130				
Magnesium	51.4	1.0	50	0	103	70	130				
Potassium	51.7	1.0	50	0	103	70	130				
Sodium	51.7	1.0	50	0.1805	103	70	130				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-039BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 19:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.942	0.050	1	0	94	70	130	0.9802	4.0	20	
Calcium	50.6	1.0	50	0	101	70	130	50.93	0.7	20	
Magnesium	51.0	1.0	50	0	102	70	130	51.43	0.8	20	
Potassium	52.3	1.0	50	0	105	70	130	51.7	1.2	20	
Sodium	52.6	1.0	50	0.1805	105	70	130	51.68	1.7	20	

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **ICP2-HE_181010A: 111** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 19:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	90	110				
Calcium	25.6	1.0	25	0	102	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	25.0	1.0	25	0	100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 111** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 19:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138957

Run ID :Run Order: **ICPMS205-H_181011B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**
Analysis Date: **10/11/18 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0593	0.00030	0.06	0	99	90	110				

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Run ID :Run Order: **ICPMS205-H_181011B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**
Analysis Date: **10/11/18 15:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	2.40E-05	0.00030		0							

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Run ID :Run Order: **ICPMS205-H_181011B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**
Analysis Date: **10/11/18 15:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	6.01E-06	0.00030		0		0	0				

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Run ID :Run Order: **ICPMS205-H_181011B: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **10/11/18 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	1E-05									

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Run ID :Run Order: **ICPMS205-H_181011B: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **10/11/18 16:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0482	0.00030	0.05	0	96	85	115				

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138957

Run ID :Run Order: **ICPMS205-H_181011B: 93** SampType: **Sample Matrix Spike** Lab ID: **H18100229-002BMS** Method: **E200.8**

Analysis Date: **10/11/18 18:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	2.15	0.00030	0.5	1.664	**97**	70	130				

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Run ID :Run Order: **ICPMS205-H_181011B: 94** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-002BMSD** Method: **E200.8**

Analysis Date: **10/11/18 18:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	2.18	0.00030	0.5	1.664	**102**	70	130	2.151	**1.2**	20	

Associated samples: **H18100229-002B, H18100229-003B, H18100229-005B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138988

Run ID :Run Order: **ICP2-HE_181012B: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **10/12/18 12:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	39.7	1.0	40	0	99	95	105				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**
Analysis Date: **10/12/18 12:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	25.3	1.0	25	0	101	95	105				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 18** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**
Analysis Date: **10/12/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.00955	1.0		0		0	0				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 19** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**
Analysis Date: **10/12/18 12:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	20.4	1.0	20	0	102	80	120				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 22** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**
Analysis Date: **10/12/18 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	ND	0.02									

Associated samples: **H18100229-002B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138988

Run ID :Run Order: **ICP2-HE_181012B: 23** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**
Analysis Date: **10/12/18 13:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	52.3	1.0	50	0	105	85	115				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **10/12/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	25.0	1.0	25	0	100	90	110				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 32** SampType: **Sample Matrix Spike** Lab ID: **H18100188-002BMS2** Method: **E200.7**
Analysis Date: **10/12/18 14:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	55.2	1.0	50	2.309	106	70	130				

Associated samples: **H18100229-002B**

Run ID :Run Order: **ICP2-HE_181012B: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100188-002BMSD2** Method: **E200.7**
Analysis Date: **10/12/18 14:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	56.0	1.0	50	2.309	107	70	130	55.2	1.4	20	

Associated samples: **H18100229-002B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100229
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139166

Run ID :Run Order: **HGCV202-H_181018A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **10/18/18 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.98E-05	0.00010	0.0001	0	100	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **10/18/18 12:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	95	105				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 86** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **10/18/18 17:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.79E-05	0.00010	0.0001	0	98	90	110				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Run ID :Run Order: **HGCV202-H_181018A: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **10/18/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	95	105				

Associated samples: **H18100229-001B, H18100229-002B, H18100229-003B, H18100229-004B, H18100229-005B, H18100229-006B, H18100229-007B, H18100229-008B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18100229

Login completed by: Jessica C. Smith
Date Received: 10/5/2018

Reviewed by: BL2000\rtooke
Received by: RAT

Reviewed Date: 10/9/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☐	No ☑	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.4°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. JCS 10/08/18 Insufficient sample volume to complete all analysis for samples LYS-02, LYS-03, LYS-04R, LYS-05, LYS-07 and LYS-08. wj 10/21/18

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Page 1 of 1

Account Information *(Billing information)*

Company/Name	Montana DEQ
Contact	Ben Quinones
Phone	(406) 461-7128
Mailing Address	P.O. Box 200901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ■Email
Receive Report	☐Hard Copy ■Email
Purchase Order	
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	RESPEC
Contact	Joe Naughton
Phone	(406) 214-4478
Mailing Address	815 East Front Street, Suite 3
City, State, Zip	Missoula, MT 59802
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ■Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ■ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Please filter all samples in the laboratory to 0.45 um (all samples are submitted raw). If water quantity is insufficient for all analyses, please prioritize dissolved metals first, then dissolved Hg, then common ions (anions before cations), and then alkalinity.

Project Information

Project Name, PWSID, Permit, etc.	SSTOU Groundwater
Sampler Name	B. Merritt, T. Traxler
Sampler Phone	(406) 240-0573
Sample Origin State	Montana
EPA/State Compliance	■ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Dissolved As, Cd, Cu, Pb, Hg, Zn	Dissolved Al, Sb, Ba, Be, B, Cr, Co, Fe	Dissolved Mn, Mb, ni, Se, Ag, U, V	Alkalinity/Bicarbonate	Hardness	Ca, Mg, Cl, K, Na, SO4				See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1 LYS-01	10/2/18	1431	1	W	✓	✓	✓	✓	✓	✓						L18100229
2 LYS-02	10/2/18	1448	1	W	✓	✓	✓	✓	✓	✓						
3 LYS-03	10/2/18	1418	1	W	✓	✓	✓	✓	✓	✓						
4 LYS-04R	10/2/18	1458	1	W	✓	✓	✓	✓	✓	✓						
5 LYS-05	10/2/18	1505	1	W	✓	✓	✓	✓	✓	✓						
6 LYS-06	10/2/18	1427	1	W	✓	✓	✓	✓	✓	✓						
7 LYS-07	10/2/18	1437	1	W	✓	✓	✓	✓	✓	✓						
8 LYS-08	10/2/18	1410	1	W	✓	✓	✓	✓	✓	✓						
9																
10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	10/5/18 1145	Tanner Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Todd	10/5/18 1144	Rebecca Todd

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Hand	136	Y (N) C B	Y N	1.4 °C	(Y) N	(Y) N	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

October 24, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18100230 Quote ID: H1526 - Silver Bow Monitoring

Project Name: SSTOU Groundwater

Energy Laboratories Inc Helena MT received the following 39 samples for MT DEQ-Federal Superfund on 10/5/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18100230-001	GW-1010R	10/02/18 17:10	10/05/18	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Hardness Anions by Ion Chromatography Preparation, Dissolved Filtration MCAWW Mercury Digestion by E245.1
H18100230-002	GW-WG-SS	10/02/18 16:05	10/05/18	Groundwater	Same As Above
H18100230-003	GW-WG-NS	10/02/18 16:27	10/05/18	Groundwater	Same As Above
H18100230-004	GW-RK-BG	10/03/18 10:17	10/05/18	Groundwater	Same As Above
H18100230-005	MW-10	10/03/18 9:30	10/05/18	Groundwater	Same As Above
H18100230-006	MW-01	10/03/18 8:35	10/05/18	Groundwater	Same As Above
H18100230-007	GW-1003R	10/03/18 11:17	10/05/18	Groundwater	Same As Above
H18100230-008	1GW-1004A	10/03/18 12:00	10/05/18	Groundwater	Same As Above
H18100230-009	P-58A	10/03/18 12:10	10/05/18	Groundwater	Same As Above
H18100230-010	P-39R	10/03/18 14:00	10/05/18	Groundwater	Same As Above
H18100230-011	P-37A	10/03/18 13:20	10/05/18	Groundwater	Same As Above
H18100230-012	P-114	10/03/18 13:37	10/05/18	Groundwater	Same As Above
H18100230-013	GW-CR-BG	10/03/18 9:35	10/05/18	Groundwater	Same As Above
H18100230-014	GW-CR-WS	10/03/18 10:25	10/05/18	Groundwater	Same As Above
H18100230-015	GW-CR-ES	10/03/18 10:30	10/05/18	Groundwater	Same As Above
H18100230-016	GW-MC-NS	10/03/18 15:00	10/05/18	Groundwater	Same As Above
H18100230-017	GW-MC-SS	10/03/18 15:10	10/05/18	Groundwater	Same As Above
H18100230-018	GW-MC-BG	10/03/18 16:17	10/05/18	Groundwater	Same As Above
H18100230-019	1GW-1056	10/02/18 12:00	10/05/18	Groundwater	Same As Above
H18100230-020	LYP-07	10/02/18 11:05	10/05/18	Groundwater	Same As Above
H18100230-021	MW-2A	10/02/18 13:00	10/05/18	Groundwater	Same As Above
H18100230-022	MW-2B	10/02/18 13:40	10/05/18	Groundwater	Same As Above

ANALYTICAL SUMMARY REPORT

H18100230-023	MW-2C	10/02/18 13:50	10/05/18	Groundwater	Same As Above
H18100230-024	MW-2D	10/02/18 15:00	10/05/18	Groundwater	Same As Above
H18100230-025	GW-FM-ES	10/04/18 9:00	10/05/18	Groundwater	Same As Above
H18100230-026	GW-FM-WS	10/04/18 8:40	10/05/18	Groundwater	Same As Above
H18100230-027	GW-FM-BG	10/04/18 10:00	10/05/18	Groundwater	Same As Above
H18100230-028	GW-ST-ES	10/04/18 12:40	10/05/18	Groundwater	Same As Above
H18100230-029	GW-ST-WS	10/04/18 12:00	10/05/18	Groundwater	Same As Above
H18100230-030	GW-ST-BG	10/04/18 11:35	10/05/18	Groundwater	Same As Above
H18100230-031	GW-FR-ES	10/04/18 13:45	10/05/18	Groundwater	Same As Above
H18100230-032	GW-FR-WS	10/04/18 14:00	10/05/18	Groundwater	Same As Above
H18100230-033	GW-FR-BG	10/04/18 13:45	10/05/18	Groundwater	Same As Above
H18100230-034	MW-2A-DUP	10/02/18 13:01	10/05/18	Groundwater	Same As Above
H18100230-035	EB1	10/02/18 12:35	10/05/18	Groundwater	Same As Above
H18100230-036	GW-RK-BG-DUP	10/03/18 10:20	10/05/18	Groundwater	Same As Above
H18100230-037	EB2	10/03/18 14:00	10/05/18	Groundwater	Same As Above
H18100230-038	GW-FR-BG-DUP	10/04/18 13:47	10/05/18	Groundwater	Same As Above
H18100230-039	EB3	10/04/18 13:30	10/05/18	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1010R
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-001
Collection Date: 10/02/18 17:10
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	260	mg/L		4	2	A2320 B	10/08/18 19:56 / SR			PHSC_101-H_181008A	352	R138808
Bicarbonate as HCO3	320	mg/L		4	2	A2320 B	10/08/18 19:56 / SR			PHSC_101-H_181008A	352	R138808
Chloride	23	mg/L		1	0.02	E300.0	10/09/18 17:59 / SR			IC METROHM_181001A	796	R138640
Sulfate	348	mg/L		1	0.01	E300.0	10/12/18 14:37 / SR			C METROHM_181001A	1069	R138640
Hardness as CaCO3	308	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	6	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Antimony	0.00040	mg/L	J	0.0005	0.00009	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Barium	0.020	mg/L		0.003	0.00002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Boron	0.1	mg/L		0.1	0.006	E200.7	10/10/18 15:22 / sld	10/09/18 11:21		ICP2-HE_181010A	42	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Calcium	94	mg/L		1	0.07	E200.7	10/10/18 15:22 / sld	10/09/18 11:21		ICP2-HE_181010A	42	R138906
Chromium	0.0008	mg/L	J	0.01	0.0002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Copper	0.0007	mg/L	J	0.001	0.0001	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Iron	0.004	mg/L	J	0.02	0.002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Magnesium	18	mg/L		1	0.1	E200.7	10/10/18 15:22 / sld	10/09/18 11:21		ICP2-HE_181010A	42	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Mercury	2.0E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:06 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	29	43483
Molybdenum	0.010	mg/L		0.005	0.00002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 15:22 / sld	10/09/18 11:21		ICP2-HE_181010A	42	R138906
Selenium	0.00028	mg/L	J	0.001	0.00002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Sodium	132	mg/L		1	0.02	E200.7	10/10/18 15:22 / sld	10/09/18 11:21		ICP2-HE_181010A	42	R138906
Uranium	0.0864	mg/L		0.0002	0.00001	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Vanadium	0.00086	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895
Zinc	0.0008	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	52	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-WG-SS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-002
Collection Date: 10/02/18 16:05
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	150	mg/L		4	2	A2320 B	10/08/18 20:04 / SR			PHSC_101-H_181008A : 354		R138808
Bicarbonate as HCO3	190	mg/L		4	2	A2320 B	10/08/18 20:04 / SR			PHSC_101-H_181008A : 354		R138808
Chloride	66	mg/L		1	0.009	E300.0	10/09/18 18:13 / SR			IC METROHM_181001A : 797		R138640
Sulfate	171	mg/L		1	0.01	E300.0	10/09/18 18:13 / SR			IC METROHM_181001A : 797		R138640
Hardness as CaCO3	217	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A : 7		R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Antimony	0.0009	mg/L		0.0005	0.00009	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Arsenic	0.008	mg/L		0.001	0.00004	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Barium	0.005	mg/L		0.003	0.00002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Boron	0.1	mg/L		0.1	0.006	E200.7	10/10/18 15:26 / sld	10/09/18 11:21		ICP2-HE_181010A : 43		R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Calcium	71	mg/L		1	0.07	E200.7	10/10/18 15:26 / sld	10/09/18 11:21		ICP2-HE_181010A : 43		R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Copper	0.0009	mg/L	J	0.001	0.0001	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Magnesium	10	mg/L		1	0.004	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Manganese	0.006	mg/L		0.001	0.0003	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Mercury	2.0E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:09 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A : 30		43483
Molybdenum	0.021	mg/L		0.005	0.00002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Potassium	7	mg/L		1	0.06	E200.7	10/10/18 15:26 / sld	10/09/18 11:21		ICP2-HE_181010A : 43		R138906
Selenium	0.00033	mg/L	J	0.001	0.00002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Sodium	79	mg/L		1	0.02	E200.7	10/10/18 15:26 / sld	10/09/18 11:21		ICP2-HE_181010A : 43		R138906
Uranium	0.0183	mg/L		0.0002	0.00001	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Vanadium	0.00044	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895
Zinc	0.0018	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:55 / sld	10/09/18 11:21		ICPMS205-H_181010A : 53		R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-WG-NS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-003
Collection Date: 10/02/18 16:27
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	220	mg/L		4	2	A2320 B	10/08/18 20:11 / SR			PHSC_101-H_181008A	356	R138808
Bicarbonate as HCO3	260	mg/L		4	2	A2320 B	10/08/18 20:11 / SR			PHSC_101-H_181008A	356	R138808
Chloride	40	mg/L		1	0.009	E300.0	10/12/18 14:52 / SR			METROHM_181001A	1070	R138640
Sulfate	641	mg/L		1	0.01	E300.0	10/12/18 14:52 / SR			METROHM_181001A	1070	R138640
Hardness as CaCO3	645	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	8	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Antimony	0.00026	mg/L	J	0.0005	0.00009	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Barium	0.040	mg/L		0.003	0.00002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Boron	0.1	mg/L		0.1	0.006	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906
Cadmium	0.00009	mg/L		0.00003	0.00003	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Calcium	203	mg/L		1	0.07	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Cobalt	0.0049	mg/L	J	0.01	0.00009	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Copper	0.0005	mg/L	J	0.001	0.0001	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Iron	0.003	mg/L	J	0.02	0.002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Lead	0.00013	mg/L	J	0.0003	0.00003	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Magnesium	34	mg/L		1	0.1	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906
Manganese	5.27	mg/L	D	0.002	0.002	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906
Mercury	1.7E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:12 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	31	43483
Molybdenum	0.013	mg/L		0.005	0.00002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Nickel	0.0012	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Potassium	9	mg/L		1	0.06	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906
Selenium	0.00012	mg/L	J	0.001	0.00002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Sodium	90	mg/L		1	0.02	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906
Uranium	0.0255	mg/L		0.0002	0.00001	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Vanadium	0.00018	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	54	R138895
Zinc	1.07	mg/L		0.008	0.003	E200.7	10/10/18 15:37 / sld	10/09/18 11:21		ICP2-HE_181010A	46	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-RK-BG
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-004
Collection Date: 10/03/18 10:17
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	140	mg/L		4	2	A2320 B	10/08/18 20:20 / SR			PHSC_101-H_181008A	358	R138808
Bicarbonate as HCO3	170	mg/L		4	2	A2320 B	10/08/18 20:20 / SR			PHSC_101-H_181008A	358	R138808
Chloride	39	mg/L		1	0.009	E300.0	10/12/18 15:06 / SR			METROHM_181001A	1071	R138640
Sulfate	120	mg/L		1	0.01	E300.0	10/12/18 15:06 / SR			METROHM_181001A	1071	R138640
Hardness as CaCO3	204	mg/L		1	1	A2340 B	10/14/18 17:36 / sld			WATERCALC_181014A	3	R138986
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Antimony	0.00015	mg/L	J	0.0005	0.00009	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Barium	0.075	mg/L		0.003	0.00002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Boron	0.038	mg/L	J	0.1	0.006	E200.7	10/10/18 15:41 / sld	10/09/18 11:21		ICP2-HE_181010A	47	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Calcium	61	mg/L		1	0.07	E200.7	10/15/18 11:33 / sld	10/09/18 11:21		ICP2-HE_181015A	30	R139005
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Copper	0.0003	mg/L	J	0.001	0.0001	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Magnesium	14	mg/L		1	0.1	E200.7	10/10/18 15:41 / sld	10/09/18 11:21		ICP2-HE_181010A	47	R138906
Manganese	0.0003	mg/L	J	0.001	0.0003	E200.8	10/11/18 18:25 / sld	10/09/18 11:21		ICPMS205-H_181011B	89	R138957
Mercury	1.8E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:16 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	32	43483
Molybdenum	0.013	mg/L		0.005	0.00002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Potassium	5	mg/L		1	0.06	E200.7	10/10/18 15:41 / sld	10/09/18 11:21		ICP2-HE_181010A	47	R138906
Selenium	0.001	mg/L		0.001	0.00002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Sodium	40	mg/L		1	0.02	E200.7	10/10/18 15:41 / sld	10/09/18 11:21		ICP2-HE_181010A	47	R138906
Uranium	0.0072	mg/L		0.0002	0.00001	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Vanadium	0.0047	mg/L	J	0.1	0.00007	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895
Zinc	0.0019	mg/L	J	0.008	0.0003	E200.8	10/10/18 12:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	55	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-10
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-005
Collection Date: 10/03/18 09:30
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	41	mg/L		4	2	A2320 B	10/08/18 20:27 / SR			PHSC_101-H_181008A	360	R138808
Bicarbonate as HCO3	50	mg/L		4	2	A2320 B	10/08/18 20:27 / SR			PHSC_101-H_181008A	360	R138808
Chloride	58	mg/L		1	0.009	E300.0	10/09/18 18:55 / SR			IC METROHM_181001A	800	R138640
Sulfate	254	mg/L		1	0.01	E300.0	10/09/18 18:55 / SR			IC METROHM_181001A	800	R138640
Hardness as CaCO3	215	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	9	R138914
METALS, DISSOLVED												
Aluminum	0.079	mg/L		0.009	0.003	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Barium	0.021	mg/L		0.003	0.00002	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Boron	0.096	mg/L	J	0.1	0.006	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Cadmium	0.00316	mg/L		0.00003	0.00003	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Calcium	61	mg/L		1	0.07	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Cobalt	0.02	mg/L		0.01	0.00009	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Copper	0.006	mg/L		0.001	0.0001	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Iron	12.7	mg/L		0.02	0.01	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Magnesium	15	mg/L		1	0.1	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Manganese	12.7	mg/L	D	0.002	0.002	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Mercury	1.5E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:19 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	33	43483
Molybdenum	0.0011	mg/L	J	0.005	0.00002	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Nickel	0.010	mg/L		0.002	0.0002	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Selenium	0.00003	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Sodium	37	mg/L		1	0.02	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906
Uranium	0.0008	mg/L		0.0002	0.00001	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Vanadium	ND	mg/L		0.1	0.00007	E200.8	10/10/18 13:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	56	R138895
Zinc	4.67	mg/L		0.008	0.003	E200.7	10/10/18 15:45 / sld	10/09/18 11:21		ICP2-HE_181010A	48	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-01
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-006
Collection Date: 10/03/18 08:35
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	180	mg/L		4	2	A2320 B	10/09/18 10:06 / SR			PHSC_101-H_181009A	8	R138841
Bicarbonate as HCO3	220	mg/L		4	2	A2320 B	10/09/18 10:06 / SR			PHSC_101-H_181009A	8	R138841
Chloride	20	mg/L		1	0.009	E300.0	10/09/18 19:09 / SR			IC METROHM_181001A	801	R138640
Sulfate	279	mg/L		1	0.01	E300.0	10/09/18 19:09 / SR			IC METROHM_181001A	801	R138640
Hardness as CaCO3	372	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	10	R138914
METALS, DISSOLVED												
Aluminum	0.008	mg/L	J	0.009	0.003	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Antimony	0.00031	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Barium	0.022	mg/L		0.003	0.00002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Boron	0.1	mg/L		0.1	0.006	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906
Cadmium	0.00094	mg/L		0.00003	0.00003	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Calcium	115	mg/L		1	0.07	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Cobalt	0.00026	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Copper	0.083	mg/L		0.001	0.0001	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Iron	0.012	mg/L	J	0.02	0.002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Lead	0.00003	mg/L	J	0.0003	0.00003	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Magnesium	21	mg/L		1	0.1	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906
Manganese	0.272	mg/L	D	0.002	0.002	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906
Mercury	4.6E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:22 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	34	43483
Molybdenum	0.0027	mg/L	J	0.005	0.00002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Potassium	8	mg/L		1	0.06	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906
Selenium	0.00017	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Sodium	34	mg/L		1	0.02	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906
Uranium	0.0114	mg/L		0.0002	0.00001	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Vanadium	0.00062	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	57	R138895
Zinc	0.159	mg/L		0.008	0.003	E200.7	10/10/18 15:49 / sld	10/09/18 11:21		ICP2-HE_181010A	49	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-1003R
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-007
Collection Date: 10/03/18 11:17
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	10/09/18 10:13 / SR			PHSC_101-H_181009A	10	R138841
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	10/09/18 10:13 / SR			PHSC_101-H_181009A	10	R138841
Chloride	15	mg/L		1	0.009	E300.0	10/12/18 15:20 / SR			METROHM_181001A	1072	R138640
Sulfate	55	mg/L		1	0.01	E300.0	10/12/18 15:20 / SR			METROHM_181001A	1072	R138640
Hardness as CaCO3	110	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	11	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Barium	0.040	mg/L		0.003	0.00002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Boron	0.043	mg/L	J	0.1	0.006	E200.7	10/10/18 15:52 / sld	10/09/18 11:21		ICP2-HE_181010A	50	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Calcium	33	mg/L		1	0.07	E200.7	10/10/18 15:52 / sld	10/09/18 11:21		ICP2-HE_181010A	50	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Copper	0.0001	mg/L	J	0.001	0.0001	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Magnesium	7	mg/L		1	0.1	E200.7	10/10/18 15:52 / sld	10/09/18 11:21		ICP2-HE_181010A	50	R138906
Manganese	0.0006	mg/L	J	0.001	0.0003	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Mercury	1.2E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:25 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	35	43483
Molybdenum	0.012	mg/L		0.005	0.00002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Potassium	5	mg/L		1	0.06	E200.7	10/10/18 15:52 / sld	10/09/18 11:21		ICP2-HE_181010A	50	R138906
Selenium	0.00046	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Sodium	31	mg/L		1	0.02	E200.7	10/10/18 15:52 / sld	10/09/18 11:21		ICP2-HE_181010A	50	R138906
Uranium	0.0029	mg/L		0.0002	0.00001	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Vanadium	0.0051	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895
Zinc	0.0013	mg/L	J	0.008	0.0003	E200.8	10/10/18 13:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	58	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: 1GW-1004A
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-008
Collection Date: 10/03/18 12:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	ND	mg/L		4	2	A2320 B	10/09/18 10:29 / SR			PHSC_101-H_181009A	14	R138841
Bicarbonate as HCO3	ND	mg/L		4	2	A2320 B	10/09/18 10:29 / SR			PHSC_101-H_181009A	14	R138841
Chloride	68	mg/L		1	0.02	E300.0	10/09/18 20:48 / SR			IC METROHM_181001A	807	R138640
Sulfate	463	mg/L		1	0.02	E300.0	10/09/18 20:48 / SR			IC METROHM_181001A	807	R138640
Hardness as CaCO3	269	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	12	R138914
METALS, DISSOLVED												
Aluminum	0.292	mg/L		0.009	0.003	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Arsenic	0.00014	mg/L	J	0.001	0.00004	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Barium	0.012	mg/L		0.003	0.00002	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Beryllium	0.0001	mg/L	J	0.0008	0.0001	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Boron	0.1	mg/L		0.1	0.006	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Cadmium	0.00364	mg/L		0.00003	0.00003	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Calcium	60	mg/L		1	0.07	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Cobalt	0.04	mg/L		0.01	0.00009	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Copper	0.369	mg/L		0.001	0.0001	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Iron	48.5	mg/L		0.02	0.01	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Lead	0.0163	mg/L		0.0003	0.00003	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Magnesium	29	mg/L		1	0.1	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Manganese	19.3	mg/L	D	0.002	0.002	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Mercury	5.8E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 18:31 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	97	43483
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Nickel	0.014	mg/L		0.002	0.0002	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Selenium	0.00009	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Sodium	48	mg/L		1	0.02	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906
Uranium	0.0010	mg/L		0.0002	0.00001	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Vanadium	ND	mg/L		0.1	0.00007	E200.8	10/10/18 13:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	68	R138895
Zinc	5.72	mg/L		0.008	0.003	E200.7	10/10/18 15:56 / sld	10/09/18 11:21		ICP2-HE_181010A	51	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-58A
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-009
Collection Date: 10/03/18 12:10
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	14	mg/L		4	2	A2320 B	10/09/18 10:33 / SR			PHSC_101-H_181009A	16	R138841
Bicarbonate as HCO3	17	mg/L		4	2	A2320 B	10/09/18 10:33 / SR			PHSC_101-H_181009A	16	R138841
Chloride	92	mg/L		1	0.009	E300.0	10/15/18 14:24 / SR			IC METROHM_181015A	14	R139059
Sulfate	356	mg/L		1	0.01	E300.0	10/15/18 14:24 / SR			IC METROHM_181015A	14	R139059
Hardness as CaCO3	290	mg/L		1	1	A2340 B	10/14/18 20:01 / sld			WATERCALC_181014B	3	R138989
METALS, DISSOLVED												
Aluminum	1.07	mg/L		0.009	0.007	E200.7	10/12/18 14:27 / sld	10/09/18 11:21		ICP2-HE_181012B	35	R138988
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Arsenic	0.00085	mg/L	J	0.001	0.00004	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Barium	0.031	mg/L		0.003	0.00002	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Beryllium	0.0006	mg/L	J	0.0008	0.0001	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Boron	0.081	mg/L	J	0.1	0.006	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Cadmium	0.0217	mg/L		0.00003	0.00003	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Calcium	82	mg/L		1	0.07	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Cobalt	0.04	mg/L		0.01	0.00009	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Copper	0.560	mg/L		0.001	0.0001	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Iron	21.6	mg/L		0.02	0.01	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Magnesium	21	mg/L		1	0.1	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Manganese	11.4	mg/L	D	0.002	0.002	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Mercury	1.9E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:32 / dck	10/17/18 10:18	E245.1	HGCV202-H_181018A	37	43483
Molybdenum	0.00004	mg/L	J	0.005	0.00002	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Nickel	0.030	mg/L		0.002	0.0002	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Potassium	8	mg/L		1	0.06	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Selenium	0.00008	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Sodium	52	mg/L		1	0.02	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906
Uranium	0.0007	mg/L		0.0002	0.00001	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Vanadium	ND	mg/L		0.1	0.00007	E200.8	10/10/18 13:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	69	R138895
Zinc	10.1	mg/L		0.008	0.003	E200.7	10/10/18 16:00 / sld	10/09/18 11:21		ICP2-HE_181010A	52	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-39R
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-010
Collection Date: 10/03/18 14:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	310	mg/L		4	2	A2320 B	10/09/18 10:39 / SR			PHSC_101-H_181009A	18	R138841
Bicarbonate as HCO3	380	mg/L		4	2	A2320 B	10/09/18 10:39 / SR			PHSC_101-H_181009A	18	R138841
Chloride	60	mg/L		1	0.02	E300.0	10/09/18 21:16 / SR			IC METROHM_181001A	809	R138640
Sulfate	353	mg/L		1	0.02	E300.0	10/09/18 21:16 / SR			IC METROHM_181001A	809	R138640
Hardness as CaCO3	530	mg/L		1	1	A2340 B	10/10/18 16:04 / SR			CALC_181011A	256	R138946
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Antimony	0.00023	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Arsenic	0.011	mg/L		0.001	0.00004	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Barium	0.111	mg/L		0.003	0.00002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Boron	0.3	mg/L		0.1	0.006	E200.7	10/10/18 16:04 / sld	10/09/18 11:21		ICP2-HE_181010A	53	R138906
Cadmium	0.00010	mg/L		0.00003	0.00003	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Calcium	164	mg/L		1	0.07	E200.7	10/10/18 16:04 / sld	10/09/18 11:21		ICP2-HE_181010A	53	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Copper	0.038	mg/L		0.001	0.0001	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Iron	0.009	mg/L	J	0.02	0.002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Magnesium	30	mg/L		1	0.1	E200.7	10/10/18 16:04 / sld	10/09/18 11:21		ICP2-HE_181010A	53	R138906
Manganese	0.003	mg/L		0.001	0.0003	E200.8	10/11/18 18:27 / sld	10/09/18 11:21		ICPMS205-H_181011B	90	R138957
Mercury	2.9E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 14:56 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	43	43484
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Potassium	13	mg/L		1	0.06	E200.7	10/10/18 16:04 / sld	10/09/18 11:21		ICP2-HE_181010A	53	R138906
Selenium	0.002	mg/L		0.001	0.00002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Sodium	85	mg/L		1	0.02	E200.7	10/10/18 16:04 / sld	10/09/18 11:21		ICP2-HE_181010A	53	R138906
Uranium	0.111	mg/L		0.0002	0.00001	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Vanadium	0.0073	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	70	R138895
Zinc	0.0056	mg/L	J	0.008	0.0003	E200.8	10/11/18 18:27 / sld	10/09/18 11:21		ICPMS205-H_181011B	90	R138957

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-37A
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-011
Collection Date: 10/03/18 13:20
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	99	mg/L		4	2	A2320 B	10/09/18 10:48 / SR			PHSC_101-H_181009A	20	R138841
Bicarbonate as HCO3	120	mg/L		4	2	A2320 B	10/09/18 10:48 / SR			PHSC_101-H_181009A	20	R138841
Chloride	124	mg/L		1	0.02	E300.0	10/09/18 21:30 / SR			IC METROHM_181001A	810	R138640
Sulfate	437	mg/L		1	0.02	E300.0	10/09/18 21:30 / SR			IC METROHM_181001A	810	R138640
Hardness as CaCO3	438	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	13	R138914
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Barium	0.025	mg/L		0.003	0.00002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Boron	0.092	mg/L	J	0.1	0.006	E200.7	10/10/18 16:07 / sld	10/09/18 11:21		ICP2-HE_181010A	54	R138906
Cadmium	0.0154	mg/L		0.00003	0.00003	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Calcium	139	mg/L		1	0.07	E200.7	10/10/18 16:07 / sld	10/09/18 11:21		ICP2-HE_181010A	54	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Cobalt	0.01	mg/L		0.01	0.00009	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Copper	0.041	mg/L		0.001	0.0001	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Iron	0.012	mg/L	J	0.02	0.002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Magnesium	25	mg/L		1	0.004	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Manganese	6.50	mg/L	D	0.002	0.002	E200.7	10/10/18 16:07 / sld	10/09/18 11:21		ICP2-HE_181010A	54	R138906
Mercury	5.5E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 18:54 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	102	43484
Molybdenum	0.00076	mg/L	J	0.005	0.00002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Nickel	0.004	mg/L		0.002	0.0002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Potassium	8	mg/L		1	0.06	E200.7	10/10/18 16:07 / sld	10/09/18 11:21		ICP2-HE_181010A	54	R138906
Selenium	0.00010	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Sodium	92	mg/L		1	0.02	E200.7	10/10/18 16:07 / sld	10/09/18 11:21		ICP2-HE_181010A	54	R138906
Uranium	0.0017	mg/L		0.0002	0.00001	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Vanadium	0.00009	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895
Zinc	0.951	mg/L		0.008	0.0003	E200.8	10/10/18 13:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	71	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: P-114
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-012
Collection Date: 10/03/18 13:37
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	200	mg/L		4	2	A2320 B	10/09/18 10:56 / SR			PHSC_101-H_181009A	22	R138841
Bicarbonate as HCO3	240	mg/L		4	2	A2320 B	10/09/18 10:56 / SR			PHSC_101-H_181009A	22	R138841
Chloride	40	mg/L		1	0.009	E300.0	10/09/18 21:45 / SR			IC METROHM_181001A	811	R138640
Sulfate	143	mg/L		1	0.01	E300.0	10/09/18 21:45 / SR			IC METROHM_181001A	811	R138640
Hardness as CaCO3	166	mg/L		1	1	A2340 B	10/10/18 16:30 / SR			CALC_181011A	267	R138946
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Antimony	0.00037	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Barium	0.027	mg/L		0.003	0.00002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Boron	0.085	mg/L	J	0.1	0.006	E200.7	10/10/18 16:30 / sld	10/09/18 11:21		ICP2-HE_181010A	60	R138906
Cadmium	0.00012	mg/L		0.00003	0.00003	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Calcium	57	mg/L		1	0.07	E200.7	10/10/18 16:30 / sld	10/09/18 11:21		ICP2-HE_181010A	60	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Copper	0.0004	mg/L	J	0.001	0.0001	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Magnesium	6	mg/L		1	0.1	E200.7	10/10/18 16:30 / sld	10/09/18 11:21		ICP2-HE_181010A	60	R138906
Manganese	0.005	mg/L		0.001	0.0003	E200.8	10/11/18 18:29 / sld	10/09/18 11:21		ICPMS205-H_181011B	91	R138957
Mercury	8.5E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 18:57 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	103	43484
Molybdenum	0.007	mg/L		0.005	0.00002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Nickel	0.0004	mg/L	J	0.002	0.0002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 16:30 / sld	10/09/18 11:21		ICP2-HE_181010A	60	R138906
Selenium	0.00088	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Sodium	98	mg/L		1	0.02	E200.7	10/10/18 16:30 / sld	10/09/18 11:21		ICP2-HE_181010A	60	R138906
Uranium	0.0030	mg/L		0.0002	0.00001	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Vanadium	0.00043	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895
Zinc	0.0043	mg/L	J	0.008	0.0003	E200.8	10/10/18 13:32 / sld	10/09/18 11:21		ICPMS205-H_181010A	72	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-CR-BG
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-013
Collection Date: 10/03/18 09:35
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	160	mg/L		4	2	A2320 B	10/09/18 11:04 / SR			PHSC_101-H_181009A	24	R138841
Bicarbonate as HCO3	190	mg/L		4	2	A2320 B	10/09/18 11:04 / SR			PHSC_101-H_181009A	24	R138841
Chloride	19	mg/L		1	0.02	E300.0	10/09/18 21:59 / SR			IC METROHM_181001A	812	R138640
Sulfate	120	mg/L		1	0.02	E300.0	10/09/18 21:59 / SR			IC METROHM_181001A	812	R138640
Hardness as CaCO3	46	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	14	R138914
METALS, DISSOLVED												
Aluminum	0.012	mg/L		0.009	0.003	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Antimony	0.0016	mg/L		0.0005	0.00009	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Arsenic	0.027	mg/L		0.001	0.00004	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Barium	0.016	mg/L		0.003	0.00002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Boron	0.2	mg/L		0.1	0.01	E200.7	10/10/18 19:59 / sld	10/09/18 14:17		ICP2-HE_181010A	115	R138906
Cadmium	0.00004	mg/L		0.00003	0.00003	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Calcium	15	mg/L		1	0.1	E200.7	10/10/18 19:59 / sld	10/09/18 14:17		ICP2-HE_181010A	115	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Cobalt	0.00083	mg/L	J	0.01	0.00009	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Copper	0.003	mg/L		0.001	0.0001	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Iron	0.018	mg/L	J	0.02	0.002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Magnesium	2	mg/L		1	0.3	E200.7	10/10/18 19:59 / sld	10/09/18 14:17		ICP2-HE_181010A	115	R138906
Manganese	0.156	mg/L		0.001	0.0003	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Mercury	3.5E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 18:34 / dck	10/18/18 12:41	E245.1	HGCV202-H_181018A	98	43483
Molybdenum	0.027	mg/L		0.005	0.00002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Nickel	0.0018	mg/L	J	0.002	0.0002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Potassium	4	mg/L		1	0.1	E200.7	10/10/18 19:59 / sld	10/09/18 14:17		ICP2-HE_181010A	115	R138906
Selenium	0.00023	mg/L	J	0.001	0.00002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Sodium	127	mg/L		1	0.03	E200.7	10/10/18 19:59 / sld	10/09/18 14:17		ICP2-HE_181010A	115	R138906
Uranium	0.0032	mg/L		0.0002	0.00001	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Vanadium	0.0060	mg/L	J	0.1	0.00007	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895
Zinc	0.0019	mg/L	J	0.008	0.0003	E200.8	10/10/18 15:16 / sld	10/09/18 14:17		ICPMS205-H_181010A	126	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-CR-WS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-014
Collection Date: 10/03/18 10:25
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	160	mg/L		4	2	A2320 B	10/09/18 11:13 / SR			PHSC_101-H_181009A	26	R138841
Bicarbonate as HCO3	200	mg/L		4	2	A2320 B	10/09/18 11:13 / SR			PHSC_101-H_181009A	26	R138841
Chloride	37	mg/L		1	0.009	E300.0	10/09/18 22:13 / SR			IC METROHM_181001A	813	R138640
Sulfate	107	mg/L		1	0.01	E300.0	10/09/18 22:13 / SR			IC METROHM_181001A	813	R138640
Hardness as CaCO3	116	mg/L		1	1	A2340 B	10/10/18 16:34 / SR			CALC_181012A	652	R138948
METALS, DISSOLVED												
Aluminum	0.040	mg/L		0.009	0.003	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Antimony	0.0008	mg/L		0.0005	0.00009	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Arsenic	0.016	mg/L		0.001	0.00004	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Barium	0.035	mg/L		0.003	0.00002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Boron	0.2	mg/L		0.1	0.006	E200.7	10/10/18 16:34 / sld	10/09/18 11:21		ICP2-HE_181010A	61	R138906
Cadmium	0.0132	mg/L		0.00003	0.00003	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Calcium	37	mg/L		1	0.07	E200.7	10/10/18 16:34 / sld	10/09/18 11:21		ICP2-HE_181010A	61	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Cobalt	0.0021	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Copper	0.027	mg/L		0.001	0.0001	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Iron	0.06	mg/L		0.02	0.002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Lead	0.00021	mg/L	J	0.0003	0.00003	E200.8	10/11/18 18:31 / sld	10/09/18 11:21		ICPMS205-H_181011B	92	R138957
Magnesium	6	mg/L		1	0.1	E200.7	10/10/18 16:34 / sld	10/09/18 11:21		ICP2-HE_181010A	61	R138906
Manganese	1.52	mg/L	D	0.002	0.002	E200.7	10/10/18 16:34 / sld	10/09/18 11:21		ICP2-HE_181010A	61	R138906
Mercury	6.8E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 19:00 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	104	43484
Molybdenum	0.027	mg/L		0.005	0.00002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Nickel	0.002	mg/L		0.002	0.0002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Potassium	5	mg/L		1	0.06	E200.7	10/10/18 16:34 / sld	10/09/18 11:21		ICP2-HE_181010A	61	R138906
Selenium	0.00014	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Sodium	84	mg/L		1	0.02	E200.7	10/10/18 16:34 / sld	10/09/18 11:21		ICP2-HE_181010A	61	R138906
Uranium	0.0063	mg/L		0.0002	0.00001	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Vanadium	0.00072	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895
Zinc	0.218	mg/L		0.008	0.0003	E200.8	10/10/18 13:34 / sld	10/09/18 11:21		ICPMS205-H_181010A	73	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-CR-ES
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-015
Collection Date: 10/03/18 10:30
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	95	mg/L		4	2	A2320 B	10/09/18 11:21 / SR			PHSC_101-H_181009A	28	R138841
Bicarbonate as HCO3	120	mg/L		4	2	A2320 B	10/09/18 11:21 / SR			PHSC_101-H_181009A	28	R138841
Chloride	38	mg/L		1	0.009	E300.0	10/15/18 14:38 / SR			IC METROHM_181015A	15	R139059
Sulfate	112	mg/L		1	0.01	E300.0	10/15/18 14:38 / SR			IC METROHM_181015A	15	R139059
Hardness as CaCO3	132	mg/L		1	1	A2340 B	10/14/18 17:36 / sld			WATERCALC_181014A	4	R138986
METALS, DISSOLVED												
Aluminum	0.017	mg/L		0.009	0.003	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Antimony	0.00041	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Arsenic	0.001	mg/L		0.001	0.00004	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Barium	0.016	mg/L		0.003	0.00002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Boron	0.062	mg/L	J	0.1	0.006	E200.7	10/10/18 16:38 / sld	10/09/18 11:21		ICP2-HE_181010A	62	R138906
Cadmium	0.00186	mg/L		0.00003	0.00003	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Calcium	40	mg/L		1	0.07	E200.7	10/10/18 16:38 / sld	10/09/18 11:21		ICP2-HE_181010A	62	R138906
Chromium	0.0004	mg/L	J	0.01	0.0002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Cobalt	0.00023	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Copper	0.005	mg/L		0.001	0.0001	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Magnesium	8	mg/L		1	0.1	E200.7	10/10/18 16:38 / sld	10/09/18 11:21		ICP2-HE_181010A	62	R138906
Manganese	0.043	mg/L		0.001	0.0003	E200.8	10/11/18 18:44 / sld	10/09/18 11:21		ICPMS205-H_181011B	99	R138957
Mercury	3.2E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:08 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	47	43484
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Nickel	0.002	mg/L		0.002	0.0002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Potassium	3	mg/L		1	0.06	E200.7	10/10/18 16:38 / sld	10/09/18 11:21		ICP2-HE_181010A	62	R138906
Selenium	0.00018	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Sodium	54	mg/L		1	0.02	E200.7	10/10/18 16:38 / sld	10/09/18 11:21		ICP2-HE_181010A	62	R138906
Uranium	0.0012	mg/L		0.0002	0.00001	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Vanadium	0.0025	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895
Zinc	0.401	mg/L		0.008	0.0003	E200.8	10/10/18 13:36 / sld	10/09/18 11:21		ICPMS205-H_181010A	74	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-NS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-016
Collection Date: 10/03/18 15:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	69	mg/L		4	2	A2320 B	10/09/18 11:28 / SR			PHSC_101-H_181009A	30	R138841
Bicarbonate as HCO3	83	mg/L		4	2	A2320 B	10/09/18 11:28 / SR			PHSC_101-H_181009A	30	R138841
Chloride	50	mg/L		1	0.009	E300.0	10/15/18 14:52 / SR			IC METROHM_181015A	16	R139059
Sulfate	107	mg/L		1	0.01	E300.0	10/15/18 14:52 / SR			IC METROHM_181015A	16	R139059
Hardness as CaCO3	136	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	15	R138914
METALS, DISSOLVED												
Aluminum	0.032	mg/L		0.009	0.003	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Antimony	0.0005	mg/L		0.0005	0.00009	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Barium	0.032	mg/L		0.003	0.00002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Boron	0.064	mg/L	J	0.1	0.006	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906
Cadmium	0.0238	mg/L		0.00003	0.00003	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Calcium	38	mg/L		1	0.07	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Cobalt	0.01	mg/L		0.01	0.00009	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Copper	0.234	mg/L		0.001	0.0001	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Iron	0.02	mg/L		0.02	0.002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Magnesium	10	mg/L		1	0.1	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906
Manganese	5.11	mg/L	D	0.002	0.002	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906
Mercury	0.0000114	mg/L		5E-06	1E-06	E245.1	10/18/18 15:18 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	50	43484
Molybdenum	0.007	mg/L		0.005	0.00002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Nickel	0.012	mg/L		0.002	0.0002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906
Selenium	0.00017	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Sodium	34	mg/L		1	0.02	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906
Uranium	0.0058	mg/L		0.0002	0.00001	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Vanadium	0.00072	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:38 / sld	10/09/18 11:21		ICPMS205-H_181010A	75	R138895
Zinc	6.88	mg/L		0.008	0.003	E200.7	10/10/18 16:41 / sld	10/09/18 11:21		ICP2-HE_181010A	63	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-SS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-017
Collection Date: 10/03/18 15:10
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	130	mg/L		4	2	A2320 B	10/09/18 11:36 / SR			PHSC_101-H_181009A	32	R138841
Bicarbonate as HCO3	160	mg/L		4	2	A2320 B	10/09/18 11:36 / SR			PHSC_101-H_181009A	32	R138841
Chloride	49	mg/L		1	0.009	E300.0	10/09/18 09:59 / SR			IC METROHM_181001A	764	R138640
Sulfate	91	mg/L		1	0.01	E300.0	10/09/18 09:59 / SR			IC METROHM_181001A	764	R138640
Hardness as CaCO3	187	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	16	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Antimony	0.00042	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Barium	0.049	mg/L		0.003	0.00002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Boron	0.062	mg/L	J	0.1	0.006	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906
Cadmium	0.0154	mg/L		0.00003	0.00003	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Calcium	53	mg/L		1	0.07	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Cobalt	0.00058	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Copper	0.012	mg/L		0.001	0.0001	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Magnesium	13	mg/L		1	0.1	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906
Manganese	2.65	mg/L	D	0.002	0.002	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906
Mercury	5.2E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 19:03 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	105	43484
Molybdenum	0.016	mg/L		0.005	0.00002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Nickel	0.007	mg/L		0.002	0.0002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906
Selenium	0.00020	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Sodium	35	mg/L		1	0.02	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906
Uranium	0.0061	mg/L		0.0002	0.00001	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Vanadium	0.0090	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	82	R138895
Zinc	3.03	mg/L		0.008	0.003	E200.7	10/10/18 16:45 / sld	10/09/18 11:21		ICP2-HE_181010A	64	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-MC-BG
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-018
Collection Date: 10/03/18 16:17
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	270	mg/L		4	2	A2320 B	10/09/18 11:43 / SR			PHSC_101-H_181009A	34	R138841
Bicarbonate as HCO3	320	mg/L		4	2	A2320 B	10/09/18 11:43 / SR			PHSC_101-H_181009A	34	R138841
Chloride	85	mg/L		1	0.009	E300.0	10/10/18 00:20 / SR			IC METROHM_181001A	821	R138640
Sulfate	275	mg/L		1	0.01	E300.0	10/10/18 00:20 / SR			IC METROHM_181001A	821	R138640
Hardness as CaCO3	136	mg/L		1	1	A2340 B	10/10/18 16:49 / SR			CALC_181011A	289	R138946
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Antimony	0.00021	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Arsenic	0.040	mg/L		0.001	0.00004	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Barium	0.023	mg/L		0.003	0.00002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Boron	0.077	mg/L	J	0.1	0.006	E200.7	10/10/18 16:49 / sld	10/09/18 11:21		ICP2-HE_181010A	65	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Calcium	40	mg/L		1	0.07	E200.7	10/10/18 16:49 / sld	10/09/18 11:21		ICP2-HE_181010A	65	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Copper	0.0004	mg/L	J	0.001	0.0001	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Magnesium	9	mg/L		1	0.1	E200.7	10/10/18 16:49 / sld	10/09/18 11:21		ICP2-HE_181010A	65	R138906
Manganese	0.003	mg/L		0.001	0.0003	E200.8	10/11/18 18:46 / sld	10/09/18 11:21		ICPMS205-H_181011B	100	R138957
Mercury	2.1E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:25 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	52	43484
Molybdenum	0.052	mg/L		0.005	0.00002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Nickel	0.0005	mg/L	J	0.002	0.0002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Potassium	5	mg/L		1	0.06	E200.7	10/10/18 16:49 / sld	10/09/18 11:21		ICP2-HE_181010A	65	R138906
Selenium	0.00027	mg/L	J	0.001	0.00002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Sodium	241	mg/L		1	0.02	E200.7	10/10/18 16:49 / sld	10/09/18 11:21		ICP2-HE_181010A	65	R138906
Uranium	0.0040	mg/L		0.0002	0.00001	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Vanadium	0.0032	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895
Zinc	0.0017	mg/L	J	0.008	0.0003	E200.8	10/10/18 13:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	83	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: 1GW-1056
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-019
Collection Date: 10/02/18 12:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	140	mg/L		4	2	A2320 B	10/09/18 11:51 / SR			PHSC_101-H_181009A	36	R138841
Bicarbonate as HCO3	170	mg/L		4	2	A2320 B	10/09/18 11:51 / SR			PHSC_101-H_181009A	36	R138841
Chloride	23	mg/L		1	0.009	E300.0	10/10/18 00:34 / SR			IC METROHM_181001A	822	R138640
Sulfate	190	mg/L		1	0.01	E300.0	10/10/18 00:34 / SR			IC METROHM_181001A	822	R138640
Hardness as CaCO3	279	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	17	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Antimony	0.00018	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Arsenic	0.006	mg/L		0.001	0.00004	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Barium	0.039	mg/L		0.003	0.00002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Boron	0.053	mg/L	J	0.1	0.006	E200.7	10/10/18 16:53 / sld	10/09/18 11:21		ICP2-HE_181010A	66	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Calcium	84	mg/L		1	0.07	E200.7	10/10/18 16:53 / sld	10/09/18 11:21		ICP2-HE_181010A	66	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Cobalt	0.00028	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Copper	0.0002	mg/L	J	0.001	0.0001	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Magnesium	17	mg/L		1	0.1	E200.7	10/10/18 16:53 / sld	10/09/18 11:21		ICP2-HE_181010A	66	R138906
Manganese	0.169	mg/L		0.001	0.0003	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Mercury	1.8E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:34 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	55	43484
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Nickel	0.003	mg/L		0.002	0.0002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 16:53 / sld	10/09/18 11:21		ICP2-HE_181010A	66	R138906
Selenium	0.004	mg/L		0.001	0.00002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Sodium	29	mg/L		1	0.02	E200.7	10/10/18 16:53 / sld	10/09/18 11:21		ICP2-HE_181010A	66	R138906
Uranium	0.0332	mg/L		0.0002	0.00001	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Vanadium	0.0029	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895
Zinc	0.0018	mg/L	J	0.008	0.0003	E200.8	10/10/18 13:55 / sld	10/09/18 11:21		ICPMS205-H_181010A	84	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: LYP-07
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-020
Collection Date: 10/02/18 11:05
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	260	mg/L		4	2	A2320 B	10/09/18 11:59 / SR			PHSC_101-H_181009A	38	R138841
Bicarbonate as HCO3	310	mg/L		4	2	A2320 B	10/09/18 11:59 / SR			PHSC_101-H_181009A	38	R138841
Chloride	30	mg/L		1	0.009	E300.0	10/10/18 00:48 / SR			IC METROHM_181001A	823	R138640
Sulfate	124	mg/L		1	0.01	E300.0	10/10/18 00:48 / SR			IC METROHM_181001A	823	R138640
Hardness as CaCO3	322	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	18	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Antimony	0.0012	mg/L		0.0005	0.00009	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Barium	0.077	mg/L		0.003	0.00002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Boron	0.055	mg/L	J	0.1	0.006	E200.7	10/10/18 16:57 / sld	10/09/18 11:21		ICP2-HE_181010A	67	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Calcium	100	mg/L		1	0.07	E200.7	10/10/18 16:57 / sld	10/09/18 11:21		ICP2-HE_181010A	67	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Cobalt	0.0010	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Copper	0.0002	mg/L	J	0.001	0.0001	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Iron	0.03	mg/L		0.02	0.002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Magnesium	18	mg/L		1	0.1	E200.7	10/10/18 16:57 / sld	10/09/18 11:21		ICP2-HE_181010A	67	R138906
Manganese	0.978	mg/L		0.001	0.0003	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Mercury	3.3E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:37 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	56	43484
Molybdenum	0.012	mg/L		0.005	0.00002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Nickel	0.003	mg/L		0.002	0.0002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Potassium	7	mg/L		1	0.06	E200.7	10/10/18 16:57 / sld	10/09/18 11:21		ICP2-HE_181010A	67	R138906
Selenium	0.004	mg/L		0.001	0.00002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Sodium	34	mg/L		1	0.02	E200.7	10/10/18 16:57 / sld	10/09/18 11:21		ICP2-HE_181010A	67	R138906
Uranium	0.0847	mg/L		0.0002	0.00001	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Vanadium	0.00075	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895
Zinc	0.0016	mg/L	J	0.008	0.0003	E200.8	10/10/18 13:57 / sld	10/09/18 11:21		ICPMS205-H_181010A	85	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2A
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-021
Collection Date: 10/02/18 13:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	130	mg/L		4	2	A2320 B	10/09/18 12:08 / SR			PHSC_101-H_181009A	40	R138841
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	10/09/18 12:08 / SR			PHSC_101-H_181009A	40	R138841
Chloride	5	mg/L		1	0.009	E300.0	10/10/18 01:02 / SR			IC METROHM_181001A	824	R138640
Sulfate	208	mg/L		1	0.01	E300.0	10/10/18 01:02 / SR			IC METROHM_181001A	824	R138640
Hardness as CaCO3	268	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	19	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Antimony	0.00036	mg/L	J	0.0005	0.00009	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Barium	0.015	mg/L		0.003	0.00002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Boron	0.036	mg/L	J	0.1	0.006	E200.7	10/10/18 17:38 / sld	10/09/18 11:21		ICP2-HE_181010A	78	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Calcium	86	mg/L		1	0.07	E200.7	10/10/18 17:38 / sld	10/09/18 11:21		ICP2-HE_181010A	78	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Cobalt	0.00026	mg/L	J	0.01	0.00009	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Copper	0.0002	mg/L	J	0.001	0.0001	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Magnesium	13	mg/L		1	0.1	E200.7	10/10/18 17:38 / sld	10/09/18 11:21		ICP2-HE_181010A	78	R138906
Manganese	0.108	mg/L		0.001	0.0003	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Mercury	1.6E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:41 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	57	43484
Molybdenum	0.009	mg/L		0.005	0.00002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 17:38 / sld	10/09/18 11:21		ICP2-HE_181010A	78	R138906
Selenium	0.012	mg/L		0.001	0.00002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Sodium	26	mg/L		1	0.02	E200.7	10/10/18 17:38 / sld	10/09/18 11:21		ICP2-HE_181010A	78	R138906
Uranium	0.0444	mg/L		0.0002	0.00001	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Vanadium	0.0029	mg/L	J	0.1	0.00007	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895
Zinc	0.0012	mg/L	J	0.008	0.0003	E200.8	10/10/18 13:59 / sld	10/09/18 11:21		ICPMS205-H_181010A	86	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2B
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-022
Collection Date: 10/02/18 13:40
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	78	mg/L		4	2	A2320 B	10/09/18 12:15 / SR			PHSC_101-H_181009A	42	R138841
Bicarbonate as HCO3	94	mg/L		4	2	A2320 B	10/09/18 12:15 / SR			PHSC_101-H_181009A	42	R138841
Chloride	41	mg/L		1	0.009	E300.0	10/10/18 01:16 / SR			IC METROHM_181001A	825	R138640
Sulfate	310	mg/L		1	0.01	E300.0	10/10/18 01:16 / SR			IC METROHM_181001A	825	R138640
Hardness as CaCO3	361	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	20	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Antimony	0.00030	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Arsenic	0.017	mg/L		0.001	0.00004	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Barium	0.051	mg/L		0.003	0.00002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Boron	0.059	mg/L	J	0.1	0.006	E200.7	10/10/18 17:42 / sld	10/09/18 11:21		ICP2-HE_181010A	79	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Calcium	99	mg/L		1	0.07	E200.7	10/10/18 17:42 / sld	10/09/18 11:21		ICP2-HE_181010A	79	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Copper	0.002	mg/L		0.001	0.0001	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Magnesium	27	mg/L		1	0.1	E200.7	10/10/18 17:42 / sld	10/09/18 11:21		ICP2-HE_181010A	79	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Mercury	2.9E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:44 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	58	43484
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 17:42 / sld	10/09/18 11:21		ICP2-HE_181010A	79	R138906
Selenium	0.003	mg/L		0.001	0.00002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Sodium	31	mg/L		1	0.02	E200.7	10/10/18 17:42 / sld	10/09/18 11:21		ICP2-HE_181010A	79	R138906
Uranium	0.0063	mg/L		0.0002	0.00001	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Vanadium	0.0045	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895
Zinc	0.0010	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:01 / sld	10/09/18 11:21		ICPMS205-H_181010A	87	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2C
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-023
Collection Date: 10/02/18 13:50
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	10/09/18 12:23 / SR			PHSC_101-H_181009A	44	R138841
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	10/09/18 12:23 / SR			PHSC_101-H_181009A	44	R138841
Chloride	37	mg/L		1	0.009	E300.0	10/10/18 01:30 / SR			IC METROHM_181001A	826	R138640
Sulfate	299	mg/L		1	0.01	E300.0	10/10/18 01:30 / SR			IC METROHM_181001A	826	R138640
Hardness as CaCO3	355	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	21	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Antimony	0.00017	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Arsenic	0.008	mg/L		0.001	0.00004	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Barium	0.026	mg/L		0.003	0.00002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Boron	0.067	mg/L	J	0.1	0.006	E200.7	10/10/18 17:57 / sld	10/09/18 11:21		ICP2-HE_181010A	83	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Calcium	104	mg/L		1	0.07	E200.7	10/10/18 17:57 / sld	10/09/18 11:21		ICP2-HE_181010A	83	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Copper	0.0004	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Magnesium	23	mg/L		1	0.1	E200.7	10/10/18 17:57 / sld	10/09/18 11:21		ICP2-HE_181010A	83	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Mercury	2.4E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 15:47 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	59	43484
Molybdenum	0.0028	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 17:57 / sld	10/09/18 11:21		ICP2-HE_181010A	83	R138906
Selenium	0.003	mg/L		0.001	0.00002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Sodium	47	mg/L		1	0.02	E200.7	10/10/18 17:57 / sld	10/09/18 11:21		ICP2-HE_181010A	83	R138906
Uranium	0.0121	mg/L		0.0002	0.00001	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Vanadium	0.0029	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895
Zinc	0.0024	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:03 / sld	10/09/18 11:21		ICPMS205-H_181010A	88	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2D
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-024
Collection Date: 10/02/18 15:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	180	mg/L		4	2	A2320 B	10/09/18 12:30 / SR			PHSC_101-H_181009A	46	R138841
Bicarbonate as HCO3	210	mg/L		4	2	A2320 B	10/09/18 12:30 / SR			PHSC_101-H_181009A	46	R138841
Chloride	36	mg/L		1	0.009	E300.0	10/10/18 01:44 / SR			IC METROHM_181001A	827	R138640
Sulfate	233	mg/L		1	0.01	E300.0	10/10/18 01:44 / SR			IC METROHM_181001A	827	R138640
Hardness as CaCO3	360	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	22	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Antimony	0.00019	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Arsenic	0.008	mg/L		0.001	0.00004	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Barium	0.049	mg/L		0.003	0.00002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Boron	0.063	mg/L	J	0.1	0.006	E200.7	10/10/18 18:01 / sld	10/09/18 11:21		ICP2-HE_181010A	84	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Calcium	107	mg/L		1	0.07	E200.7	10/10/18 18:01 / sld	10/09/18 11:21		ICP2-HE_181010A	84	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Copper	0.0004	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Magnesium	23	mg/L		1	0.1	E200.7	10/10/18 18:01 / sld	10/09/18 11:21		ICP2-HE_181010A	84	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Mercury	1.7E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:03 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	64	43484
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 18:01 / sld	10/09/18 11:21		ICP2-HE_181010A	84	R138906
Selenium	0.005	mg/L		0.001	0.00002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Sodium	32	mg/L		1	0.02	E200.7	10/10/18 18:01 / sld	10/09/18 11:21		ICP2-HE_181010A	84	R138906
Uranium	0.0718	mg/L		0.0002	0.00001	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Vanadium	0.0027	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895
Zinc	0.0026	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:05 / sld	10/09/18 11:21		ICPMS205-H_181010A	89	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FM-ES
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-025
Collection Date: 10/04/18 09:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	10/09/18 12:47 / SR			PHSC_101-H_181009A	50	R138841
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	10/09/18 12:47 / SR			PHSC_101-H_181009A	50	R138841
Chloride	54	mg/L		1	0.009	E300.0	10/10/18 01:58 / SR			IC METROHM_181001A	828	R138640
Sulfate	134	mg/L		1	0.01	E300.0	10/10/18 01:58 / SR			IC METROHM_181001A	828	R138640
Hardness as CaCO3	220	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	23	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Antimony	0.00040	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Barium	0.055	mg/L		0.003	0.00002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Boron	0.062	mg/L	J	0.1	0.006	E200.7	10/10/18 18:05 / sld	10/09/18 11:21		ICP2-HE_181010A	85	R138906
Cadmium	0.00012	mg/L		0.00003	0.00003	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Calcium	67	mg/L		1	0.07	E200.7	10/10/18 18:05 / sld	10/09/18 11:21		ICP2-HE_181010A	85	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Cobalt	0.0022	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Copper	0.002	mg/L		0.001	0.0001	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Iron	0.006	mg/L	J	0.02	0.002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Magnesium	13	mg/L		1	0.1	E200.7	10/10/18 18:05 / sld	10/09/18 11:21		ICP2-HE_181010A	85	R138906
Manganese	1.46	mg/L	D	0.002	0.002	E200.7	10/10/18 18:05 / sld	10/09/18 11:21		ICP2-HE_181010A	85	R138906
Mercury	3.6E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:06 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	65	43484
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Nickel	0.002	mg/L		0.002	0.0002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 18:05 / sld	10/09/18 11:21		ICP2-HE_181010A	85	R138906
Selenium	0.00042	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Sodium	38	mg/L		1	0.02	E200.7	10/10/18 18:05 / sld	10/09/18 11:21		ICP2-HE_181010A	85	R138906
Uranium	0.0019	mg/L		0.0002	0.00001	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Vanadium	0.00042	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895
Zinc	0.486	mg/L		0.008	0.0003	E200.8	10/10/18 14:07 / sld	10/09/18 11:21		ICPMS205-H_181010A	90	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FM-WS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-026
Collection Date: 10/04/18 08:40
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	130	mg/L		4	2	A2320 B	10/09/18 13:15 / SR			PHSC_101-H_181009A	54	R138841
Bicarbonate as HCO3	160	mg/L		4	2	A2320 B	10/09/18 13:15 / SR			PHSC_101-H_181009A	54	R138841
Chloride	34	mg/L		1	0.009	E300.0	10/10/18 02:12 / SR			IC METROHM_181001A	829	R138640
Sulfate	79	mg/L		1	0.01	E300.0	10/10/18 02:12 / SR			IC METROHM_181001A	829	R138640
Hardness as CaCO3	178	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	24	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Antimony	0.00022	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Barium	0.099	mg/L		0.003	0.00002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Boron	0.052	mg/L	J	0.1	0.006	E200.7	10/10/18 18:09 / sld	10/09/18 11:21		ICP2-HE_181010A	86	R138906
Cadmium	0.00003	mg/L	J	0.00003	0.00003	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Calcium	53	mg/L		1	0.07	E200.7	10/10/18 18:09 / sld	10/09/18 11:21		ICP2-HE_181010A	86	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Cobalt	0.00047	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Copper	0.001	mg/L		0.001	0.0001	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Iron	0.005	mg/L	J	0.02	0.002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Magnesium	11	mg/L		1	0.1	E200.7	10/10/18 18:09 / sld	10/09/18 11:21		ICP2-HE_181010A	86	R138906
Manganese	2.13	mg/L	D	0.002	0.002	E200.7	10/10/18 18:09 / sld	10/09/18 11:21		ICP2-HE_181010A	86	R138906
Mercury	2.3E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:10 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	66	43484
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Nickel	0.0012	mg/L	J	0.002	0.0002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 18:09 / sld	10/09/18 11:21		ICP2-HE_181010A	86	R138906
Selenium	0.00021	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Sodium	25	mg/L		1	0.02	E200.7	10/10/18 18:09 / sld	10/09/18 11:21		ICP2-HE_181010A	86	R138906
Uranium	0.0021	mg/L		0.0002	0.00001	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Vanadium	0.0014	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895
Zinc	0.064	mg/L		0.008	0.0003	E200.8	10/10/18 14:16 / sld	10/09/18 11:21		ICPMS205-H_181010A	95	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FM-BG
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-027
Collection Date: 10/04/18 10:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	43	mg/L		4	2	A2320 B	10/09/18 13:23 / SR			PHSC_101-H_181009A	56	R138841
Bicarbonate as HCO3	52	mg/L		4	2	A2320 B	10/09/18 13:23 / SR			PHSC_101-H_181009A	56	R138841
Chloride	30	mg/L		1	0.009	E300.0	10/10/18 03:37 / SR			IC METROHM_181001A	834	R138640
Sulfate	125	mg/L		1	0.01	E300.0	10/10/18 03:37 / SR			IC METROHM_181001A	834	R138640
Hardness as CaCO3	143	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	25	R138914
METALS, DISSOLVED												
Aluminum	0.015	mg/L		0.009	0.003	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Antimony	0.00012	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Arsenic	0.001	mg/L		0.001	0.00004	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Barium	0.053	mg/L		0.003	0.00002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Beryllium	0.0004	mg/L	J	0.0008	0.0001	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Boron	0.031	mg/L	J	0.1	0.006	E200.7	10/10/18 18:20 / sld	10/09/18 11:21		ICP2-HE_181010A	89	R138906
Cadmium	0.00034	mg/L		0.00003	0.00003	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Calcium	43	mg/L		1	0.07	E200.7	10/10/18 18:20 / sld	10/09/18 11:21		ICP2-HE_181010A	89	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Cobalt	0.00024	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Copper	0.0006	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Lead	0.00009	mg/L	J	0.0003	0.00003	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Magnesium	9	mg/L		1	0.1	E200.7	10/10/18 18:20 / sld	10/09/18 11:21		ICP2-HE_181010A	89	R138906
Manganese	0.635	mg/L	D	0.002	0.002	E200.7	10/10/18 18:20 / sld	10/09/18 11:21		ICP2-HE_181010A	89	R138906
Mercury	4.0E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:13 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	67	43484
Molybdenum	0.00011	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Nickel	0.007	mg/L		0.002	0.0002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Potassium	6	mg/L		1	0.06	E200.7	10/10/18 18:20 / sld	10/09/18 11:21		ICP2-HE_181010A	89	R138906
Selenium	0.00060	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Sodium	28	mg/L		1	0.02	E200.7	10/10/18 18:20 / sld	10/09/18 11:21		ICP2-HE_181010A	89	R138906
Uranium	0.0003	mg/L		0.0002	0.00001	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Vanadium	0.0015	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895
Zinc	0.016	mg/L		0.008	0.0003	E200.8	10/10/18 14:18 / sld	10/09/18 11:21		ICPMS205-H_181010A	96	R138895

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-ES
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-028
Collection Date: 10/04/18 12:40
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	6	mg/L		4	2	A2320 B	10/09/18 13:37 / SR			PHSC_101-H_181009A	60	R138841
Bicarbonate as HCO3	7	mg/L		4	2	A2320 B	10/09/18 13:37 / SR			PHSC_101-H_181009A	60	R138841
Chloride	36	mg/L		1	0.009	E300.0	10/15/18 15:06 / SR			IC METROHM_181015A	17	R139059
Sulfate	103	mg/L		1	0.01	E300.0	10/15/18 15:06 / SR			IC METROHM_181015A	17	R139059
Hardness as CaCO3	92	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	26	R138914
METALS, DISSOLVED												
Aluminum	0.356	mg/L		0.009	0.003	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Arsenic	0.00029	mg/L	J	0.001	0.00004	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Barium	0.020	mg/L		0.003	0.00002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Beryllium	0.0005	mg/L	J	0.0008	0.0001	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Boron	0.053	mg/L	J	0.1	0.006	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Cadmium	0.0192	mg/L		0.00003	0.00003	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Calcium	29	mg/L		1	0.07	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Cobalt	0.0056	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Copper	1.05	mg/L	D	0.01	0.01	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Iron	0.004	mg/L	J	0.02	0.002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Lead	0.0007	mg/L		0.0003	0.00003	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Magnesium	4	mg/L		1	0.1	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Manganese	1.06	mg/L	D	0.002	0.002	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Mercury	2.8E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:16 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	68	43484
Molybdenum	0.00021	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Nickel	0.008	mg/L		0.002	0.0002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Selenium	0.00011	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Silver	0.00003	mg/L	J	0.0002	0.00002	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Sodium	22	mg/L		1	0.02	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906
Uranium	0.0017	mg/L		0.0002	0.00001	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Vanadium	0.00022	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:20 / sld	10/09/18 11:21		ICPMS205-H_181010A	97	R138895
Zinc	2.88	mg/L		0.008	0.003	E200.7	10/10/18 18:24 / sld	10/09/18 11:21		ICP2-HE_181010A	90	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-WS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-029
Collection Date: 10/04/18 12:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	29	mg/L		4	2	A2320 B	10/12/18 13:02 / SR			PHSC_101-H_181012A	69	R138953
Bicarbonate as HCO3	35	mg/L		4	2	A2320 B	10/12/18 13:02 / SR			PHSC_101-H_181012A	69	R138953
Chloride	41	mg/L		1	0.009	E300.0	10/15/18 15:20 / SR			IC METROHM_181015A	18	R139059
Sulfate	119	mg/L		1	0.01	E300.0	10/15/18 15:20 / SR			IC METROHM_181015A	18	R139059
Hardness as CaCO3	125	mg/L		1	1	A2340 B	10/14/18 17:36 / sld			WATERCALC_181014A	5	R138986
METALS, DISSOLVED												
Aluminum	0.141	mg/L		0.009	0.003	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Antimony	0.00024	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Barium	0.031	mg/L		0.003	0.00002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Beryllium	0.0005	mg/L	J	0.0008	0.0001	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Boron	0.050	mg/L	J	0.1	0.006	E200.7	10/10/18 18:27 / sld	10/09/18 11:21		ICP2-HE_181010A	91	R138906
Cadmium	0.0308	mg/L		0.00003	0.00003	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Calcium	37	mg/L		1	0.07	E200.7	10/10/18 18:27 / sld	10/09/18 11:21		ICP2-HE_181010A	91	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Cobalt	0.01	mg/L		0.01	0.00009	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Copper	0.188	mg/L		0.001	0.0001	E200.8	10/11/18 18:48 / sld	10/09/18 11:21		ICPMS205-H_181011B	101	R138957
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Magnesium	8	mg/L		1	0.004	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Manganese	2.50	mg/L	D	0.002	0.002	E200.7	10/10/18 18:27 / sld	10/09/18 11:21		ICP2-HE_181010A	91	R138906
Mercury	2.8E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:19 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	69	43484
Molybdenum	0.0015	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Nickel	0.016	mg/L		0.002	0.0002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Potassium	5	mg/L		1	0.06	E200.7	10/10/18 18:27 / sld	10/09/18 11:21		ICP2-HE_181010A	91	R138906
Selenium	0.00014	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Sodium	25	mg/L		1	0.01	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Uranium	0.0011	mg/L		0.0002	0.00001	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:22 / sld	10/09/18 11:21		ICPMS205-H_181010A	98	R138895
Zinc	4.79	mg/L		0.008	0.003	E200.7	10/10/18 18:27 / sld	10/09/18 11:21		ICP2-HE_181010A	91	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-ST-BG
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-030
Collection Date: 10/04/18 11:35
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	17	mg/L		4	2	A2320 B	10/09/18 13:50 / SR			PHSC_101-H_181009A	64	R138841
Bicarbonate as HCO3	20	mg/L		4	2	A2320 B	10/09/18 13:50 / SR			PHSC_101-H_181009A	64	R138841
Chloride	79	mg/L		1	0.009	E300.0	10/15/18 15:34 / SR			IC METROHM_181015A	19	R139059
Sulfate	190	mg/L		1	0.01	E300.0	10/15/18 15:34 / SR			IC METROHM_181015A	19	R139059
Hardness as CaCO3	234	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	27	R138914
METALS, DISSOLVED												
Aluminum	0.017	mg/L		0.009	0.003	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Barium	0.021	mg/L		0.003	0.00002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Boron	0.074	mg/L	J	0.1	0.006	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906
Cadmium	0.00192	mg/L		0.00003	0.00003	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Calcium	68	mg/L		1	0.07	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Cobalt	0.00016	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Copper	0.0010	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Magnesium	16	mg/L		1	0.1	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906
Manganese	0.400	mg/L	D	0.002	0.002	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906
Mercury	4.1E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 16:23 / dck	10/18/18 12:42	E245.1	HGCV202-H_181018A	70	43484
Molybdenum	0.00003	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Nickel	0.022	mg/L		0.002	0.0002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906
Selenium	0.00009	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Sodium	24	mg/L		1	0.02	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906
Uranium	0.00005	mg/L	J	0.0002	0.00001	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Vanadium	0.0014	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:24 / sld	10/09/18 11:21		ICPMS205-H_181010A	99	R138895
Zinc	1.08	mg/L		0.008	0.003	E200.7	10/10/18 18:31 / sld	10/09/18 11:21		ICP2-HE_181010A	92	R138906

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-ES
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-031
Collection Date: 10/04/18 13:45
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	150	mg/L		4	2	A2320 B	10/09/18 13:57 / SR			PHSC_101-H_181009A	66	R138841
Bicarbonate as HCO3	180	mg/L		4	2	A2320 B	10/09/18 13:57 / SR			PHSC_101-H_181009A	66	R138841
Chloride	22	mg/L		1	0.009	E300.0	10/15/18 15:48 / SR			IC METROHM_181015A	20	R139059
Sulfate	148	mg/L		1	0.01	E300.0	10/15/18 15:48 / SR			IC METROHM_181015A	20	R139059
Hardness as CaCO3	252	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	28	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Antimony	0.00036	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Barium	0.036	mg/L		0.003	0.00002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Boron	0.024	mg/L	J	0.1	0.006	E200.7	10/10/18 18:35 / sld	10/09/18 11:21		ICP2-HE_181010A	93	R138906
Cadmium	0.00012	mg/L		0.00003	0.00003	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Calcium	75	mg/L		1	0.07	E200.7	10/10/18 18:35 / sld	10/09/18 11:21		ICP2-HE_181010A	93	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Copper	0.001	mg/L		0.001	0.0001	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Iron	0.019	mg/L	J	0.02	0.002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Magnesium	16	mg/L		1	0.1	E200.7	10/10/18 18:35 / sld	10/09/18 11:21		ICP2-HE_181010A	93	R138906
Manganese	0.029	mg/L		0.001	0.0003	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Mercury	2.2E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 19:24 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	109	43485
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Potassium	3	mg/L		1	0.06	E200.7	10/10/18 18:35 / sld	10/09/18 11:21		ICP2-HE_181010A	93	R138906
Selenium	0.00024	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Sodium	17	mg/L		1	0.02	E200.7	10/10/18 18:35 / sld	10/09/18 11:21		ICP2-HE_181010A	93	R138906
Uranium	0.0158	mg/L		0.0002	0.00001	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Vanadium	0.00051	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895
Zinc	0.0026	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:26 / sld	10/09/18 11:21		ICPMS205-H_181010A	100	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-WS
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-032
Collection Date: 10/04/18 14:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	150	mg/L		4	2	A2320 B	10/09/18 14:07 / SR			PHSC_101-H_181009A	68	R138841
Bicarbonate as HCO3	180	mg/L		4	2	A2320 B	10/09/18 14:07 / SR			PHSC_101-H_181009A	68	R138841
Chloride	2	mg/L		1	0.009	E300.0	10/10/18 04:47 / SR			IC METROHM_181001A	839	R138640
Sulfate	66	mg/L		1	0.01	E300.0	10/10/18 04:47 / SR			IC METROHM_181001A	839	R138640
Hardness as CaCO3	176	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	29	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Antimony	0.0011	mg/L		0.0005	0.00009	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Arsenic	0.010	mg/L		0.001	0.00004	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Barium	0.060	mg/L		0.003	0.00002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Boron	ND	mg/L		0.1	0.006	E200.7	10/10/18 18:39 / sld	10/09/18 11:21		ICP2-HE_181010A	94	R138906
Cadmium	0.00005	mg/L		0.00003	0.00003	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Calcium	54	mg/L		1	0.07	E200.7	10/10/18 18:39 / sld	10/09/18 11:21		ICP2-HE_181010A	94	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Cobalt	0.00036	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Copper	0.002	mg/L		0.001	0.0001	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Iron	0.009	mg/L	J	0.02	0.002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Lead	0.00024	mg/L	J	0.0003	0.00003	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Magnesium	10	mg/L		1	0.1	E200.7	10/10/18 18:39 / sld	10/09/18 11:21		ICP2-HE_181010A	94	R138906
Manganese	0.137	mg/L		0.001	0.0003	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Mercury	1.7E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 19:27 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	110	43485
Molybdenum	0.007	mg/L		0.005	0.00002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Nickel	0.0004	mg/L	J	0.002	0.0002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Potassium	2	mg/L		1	0.06	E200.7	10/10/18 18:39 / sld	10/09/18 11:21		ICP2-HE_181010A	94	R138906
Selenium	0.00015	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Sodium	12	mg/L		1	0.02	E200.7	10/10/18 18:39 / sld	10/09/18 11:21		ICP2-HE_181010A	94	R138906
Uranium	0.0133	mg/L		0.0002	0.00001	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Vanadium	0.0090	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895
Zinc	0.0022	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:28 / sld	10/09/18 11:21		ICPMS205-H_181010A	101	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-BG
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-033
Collection Date: 10/04/18 13:45
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	290	mg/L		4	2	A2320 B	10/09/18 14:16 / SR			PHSC_101-H_181009A	70	R138841
Bicarbonate as HCO3	360	mg/L		4	2	A2320 B	10/09/18 14:16 / SR			PHSC_101-H_181009A	70	R138841
Chloride	2	mg/L		1	0.009	E300.0	10/15/18 16:02 / SR			IC METROHM_181015A	21	R139059
Sulfate	47	mg/L		1	0.01	E300.0	10/15/18 16:02 / SR			IC METROHM_181015A	21	R139059
Hardness as CaCO3	138	mg/L		1	1	A2340 B	10/14/18 17:36 / sld			WATERCALC_181014A	6	R138986
METALS, DISSOLVED												
Aluminum	0.106	mg/L		0.009	0.003	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Antimony	0.0012	mg/L		0.0005	0.00009	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Arsenic	0.010	mg/L		0.001	0.00004	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Barium	0.040	mg/L		0.003	0.00002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Boron	0.007	mg/L	J	0.1	0.006	E200.7	10/10/18 18:54 / sld	10/09/18 11:21		ICP2-HE_181010A	98	R138906
Cadmium	0.00005	mg/L		0.00003	0.00003	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Calcium	42	mg/L		1	0.07	E200.7	10/10/18 18:54 / sld	10/09/18 11:21		ICP2-HE_181010A	98	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Cobalt	0.00010	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Copper	0.004	mg/L		0.001	0.0001	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Iron	0.14	mg/L		0.02	0.002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Lead	0.0004	mg/L		0.0003	0.00003	E200.8	10/11/18 18:52 / sld	10/09/18 11:21		ICPMS205-H_181011B	103	R138957
Magnesium	8	mg/L		1	0.1	E200.7	10/10/18 18:54 / sld	10/09/18 11:21		ICP2-HE_181010A	98	R138906
Manganese	0.058	mg/L		0.001	0.0003	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Mercury	5.8E-06	mg/L		5E-06	1E-06	E245.1	10/18/18 19:31 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	111	43485
Molybdenum	0.0039	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Potassium	2	mg/L		1	0.06	E200.7	10/10/18 18:54 / sld	10/09/18 11:21		ICP2-HE_181010A	98	R138906
Selenium	0.00070	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Sodium	9	mg/L		1	0.02	E200.7	10/10/18 18:54 / sld	10/09/18 11:21		ICP2-HE_181010A	98	R138906
Uranium	0.0045	mg/L		0.0002	0.00001	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Vanadium	0.0061	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895
Zinc	0.0020	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:30 / sld	10/09/18 11:21		ICPMS205-H_181010A	102	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: MW-2A-DUP
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-034
Collection Date: 10/02/18 13:01
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	120	mg/L		4	2	A2320 B	10/09/18 14:55 / SR			PHSC_101-H_181009A	72	R138841
Bicarbonate as HCO3	150	mg/L		4	2	A2320 B	10/09/18 14:55 / SR			PHSC_101-H_181009A	72	R138841
Chloride	5	mg/L		1	0.009	E300.0	10/10/18 05:16 / SR			IC METROHM_181001A	841	R138640
Sulfate	207	mg/L		1	0.01	E300.0	10/10/18 05:16 / SR			IC METROHM_181001A	841	R138640
Hardness as CaCO3	281	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	30	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Antimony	0.00042	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Arsenic	0.012	mg/L		0.001	0.00004	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Barium	0.015	mg/L		0.003	0.00002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Boron	0.032	mg/L	J	0.1	0.006	E200.7	10/10/18 19:05 / sld	10/09/18 11:21		ICP2-HE_181010A	101	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Calcium	90	mg/L		1	0.07	E200.7	10/10/18 19:05 / sld	10/09/18 11:21		ICP2-HE_181010A	101	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Cobalt	0.00029	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Copper	0.0002	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Magnesium	14	mg/L		1	0.1	E200.7	10/10/18 19:05 / sld	10/09/18 11:21		ICP2-HE_181010A	101	R138906
Manganese	0.126	mg/L		0.001	0.0003	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Mercury	1.4E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 19:34 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	112	43485
Molybdenum	0.009	mg/L		0.005	0.00002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Nickel	0.0006	mg/L	J	0.002	0.0002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Potassium	4	mg/L		1	0.06	E200.7	10/10/18 19:05 / sld	10/09/18 11:21		ICP2-HE_181010A	101	R138906
Selenium	0.011	mg/L		0.001	0.00002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Sodium	27	mg/L		1	0.02	E200.7	10/10/18 19:05 / sld	10/09/18 11:21		ICP2-HE_181010A	101	R138906
Uranium	0.0454	mg/L		0.0002	0.00001	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Vanadium	0.0028	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895
Zinc	0.0016	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:43 / sld	10/09/18 11:21		ICPMS205-H_181010A	109	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: EB1
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-035
Collection Date: 10/02/18 12:35
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	10/09/18 15:02 / SR			PHSC_101-H_181009A	74	R138841
Bicarbonate as HCO3	ND	mg/L		4	2	A2320 B	10/09/18 15:02 / SR			PHSC_101-H_181009A	74	R138841
Chloride	ND	mg/L		1	0.009	E300.0	10/10/18 05:30 / SR			IC METROHM_181001A	842	R138640
Sulfate	0.05	mg/L	J	1	0.01	E300.0	10/10/18 05:30 / SR			IC METROHM_181001A	842	R138640
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	31	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Arsenic	ND	mg/L		0.001	0.00004	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Barium	ND	mg/L		0.003	0.00002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Boron	ND	mg/L		0.1	0.006	E200.7	10/10/18 19:09 / sld	10/09/18 11:21		ICP2-HE_181010A	102	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Calcium	ND	mg/L		1	0.07	E200.7	10/10/18 19:09 / sld	10/09/18 11:21		ICP2-HE_181010A	102	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Copper	0.0003	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Magnesium	ND	mg/L		1	0.01	E200.7	10/10/18 19:09 / sld	10/09/18 11:21		ICP2-HE_181010A	102	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Mercury	ND	mg/L		5E-06	1E-06	E245.1	10/18/18 19:37 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	113	43485
Molybdenum	0.00004	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Potassium	ND	mg/L		1	0.06	E200.7	10/10/18 19:09 / sld	10/09/18 11:21		ICP2-HE_181010A	102	R138906
Selenium	ND	mg/L		0.001	0.00002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Sodium	ND	mg/L		1	0.02	E200.7	10/10/18 19:09 / sld	10/09/18 11:21		ICP2-HE_181010A	102	R138906
Uranium	0.00002	mg/L	J	0.0002	0.00001	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Vanadium	ND	mg/L		0.1	0.00007	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895
Zinc	0.0007	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:45 / sld	10/09/18 11:21		ICPMS205-H_181010A	110	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-RK-BG-DUP
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-036
Collection Date: 10/03/18 10:20
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	140	mg/L		4	2	A2320 B	10/09/18 15:08 / SR			PHSC_101-H_181009A	76	R138841
Bicarbonate as HCO3	170	mg/L		4	2	A2320 B	10/09/18 15:08 / SR			PHSC_101-H_181009A	76	R138841
Chloride	39	mg/L		1	0.009	E300.0	10/10/18 05:44 / SR			IC METROHM_181001A	843	R138640
Sulfate	118	mg/L		1	0.01	E300.0	10/10/18 05:44 / SR			IC METROHM_181001A	843	R138640
Hardness as CaCO3	212	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	32	R138914
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Antimony	0.00017	mg/L	J	0.0005	0.00009	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Arsenic	0.007	mg/L		0.001	0.00004	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Barium	0.078	mg/L		0.003	0.00002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Boron	0.040	mg/L	J	0.1	0.006	E200.7	10/10/18 19:13 / sld	10/09/18 11:21		ICP2-HE_181010A	103	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Calcium	62	mg/L		1	0.07	E200.7	10/10/18 19:13 / sld	10/09/18 11:21		ICP2-HE_181010A	103	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Copper	0.0003	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Magnesium	14	mg/L		1	0.1	E200.7	10/10/18 19:13 / sld	10/09/18 11:21		ICP2-HE_181010A	103	R138906
Manganese	0.0006	mg/L	J	0.001	0.0003	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Mercury	1.3E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 19:40 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	114	43485
Molybdenum	0.013	mg/L		0.005	0.00002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Potassium	5	mg/L		1	0.06	E200.7	10/10/18 19:13 / sld	10/09/18 11:21		ICP2-HE_181010A	103	R138906
Selenium	0.001	mg/L		0.001	0.00002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Sodium	41	mg/L		1	0.02	E200.7	10/10/18 19:13 / sld	10/09/18 11:21		ICP2-HE_181010A	103	R138906
Uranium	0.0073	mg/L		0.0002	0.00001	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Vanadium	0.0048	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895
Zinc	0.0009	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:47 / sld	10/09/18 11:21		ICPMS205-H_181010A	111	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: EB2
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-037
Collection Date: 10/03/18 14:00
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	10/09/18 15:24 / SR			PHSC_101-H_181009A	80	R138841
Bicarbonate as HCO3	2	mg/L	J	4	2	A2320 B	10/09/18 15:24 / SR			PHSC_101-H_181009A	80	R138841
Chloride	ND	mg/L		1	0.009	E300.0	10/10/18 07:09 / SR			IC METROHM_181001A	848	R138640
Sulfate	0.01	mg/L	J	1	0.01	E300.0	10/10/18 07:09 / SR			IC METROHM_181001A	848	R138640
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	33	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Arsenic	ND	mg/L		0.001	0.00004	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Barium	ND	mg/L		0.003	0.00002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Boron	ND	mg/L		0.1	0.006	E200.7	10/10/18 19:17 / sld	10/09/18 11:21		ICP2-HE_181010A	104	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Calcium	ND	mg/L		1	0.07	E200.7	10/10/18 19:17 / sld	10/09/18 11:21		ICP2-HE_181010A	104	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Copper	0.0004	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Magnesium	ND	mg/L		1	0.01	E200.7	10/10/18 19:17 / sld	10/09/18 11:21		ICP2-HE_181010A	104	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Mercury	ND	mg/L		5E-06	1E-06	E245.1	10/18/18 19:50 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	117	43485
Molybdenum	0.00003	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Potassium	ND	mg/L		1	0.06	E200.7	10/10/18 19:17 / sld	10/09/18 11:21		ICP2-HE_181010A	104	R138906
Selenium	ND	mg/L		0.001	0.00002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Sodium	ND	mg/L		1	0.02	E200.7	10/10/18 19:17 / sld	10/09/18 11:21		ICP2-HE_181010A	104	R138906
Uranium	ND	mg/L		0.0002	0.00001	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Vanadium	ND	mg/L		0.1	0.00007	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895
Zinc	0.0011	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:49 / sld	10/09/18 11:21		ICPMS205-H_181010A	112	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: GW-FR-BG-DUP
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-038
Collection Date: 10/04/18 13:47
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	220	mg/L		4	2	A2320 B	10/09/18 15:30 / SR			PHSC_101-H_181009A	82	R138841
Bicarbonate as HCO3	270	mg/L		4	2	A2320 B	10/09/18 15:30 / SR			PHSC_101-H_181009A	82	R138841
Chloride	2	mg/L		1	0.009	E300.0	10/15/18 17:27 / SR			IC METROHM_181015A	26	R139059
Sulfate	49	mg/L		1	0.01	E300.0	10/15/18 17:27 / SR			IC METROHM_181015A	26	R139059
Hardness as CaCO3	141	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	34	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Antimony	0.0013	mg/L		0.0005	0.00009	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Arsenic	0.009	mg/L		0.001	0.00004	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Barium	0.041	mg/L		0.003	0.00002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Boron	0.008	mg/L	J	0.1	0.006	E200.7	10/10/18 19:21 / sld	10/09/18 11:21		ICP2-HE_181010A	105	R138906
Cadmium	0.00006	mg/L		0.00003	0.00003	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Calcium	43	mg/L		1	0.07	E200.7	10/10/18 19:21 / sld	10/09/18 11:21		ICP2-HE_181010A	105	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Cobalt	0.00016	mg/L	J	0.01	0.00009	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Copper	0.003	mg/L		0.001	0.0001	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Iron	0.006	mg/L	J	0.02	0.002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Magnesium	8	mg/L		1	0.1	E200.7	10/10/18 19:21 / sld	10/09/18 11:21		ICP2-HE_181010A	105	R138906
Manganese	0.159	mg/L		0.001	0.0003	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Mercury	2.3E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 19:53 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	118	43485
Molybdenum	0.0039	mg/L	J	0.005	0.00002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Potassium	1	mg/L		1	0.06	E200.7	10/10/18 19:21 / sld	10/09/18 11:21		ICP2-HE_181010A	105	R138906
Selenium	0.00070	mg/L	J	0.001	0.00002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Sodium	9	mg/L		1	0.02	E200.7	10/10/18 19:21 / sld	10/09/18 11:21		ICP2-HE_181010A	105	R138906
Uranium	0.0045	mg/L		0.0002	0.00001	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Vanadium	0.0073	mg/L	J	0.1	0.00007	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895
Zinc	0.0019	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:51 / sld	10/09/18 11:21		ICPMS205-H_181010A	113	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: EB3
Project: SSTOU Groundwater
Matrix: Groundwater

Lab ID: H18100230-039
Collection Date: 10/04/18 13:30
DateReceived: 10/05/18
Report Date: 10/24/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	10/09/18 15:58 / SR			PHSC_101-H_181009A	84	R138841
Bicarbonate as HCO3	2	mg/L	J	4	2	A2320 B	10/09/18 15:58 / SR			PHSC_101-H_181009A	84	R138841
Chloride	0.032	mg/L	J	1	0.009	E300.0	10/10/18 07:37 / SR			IC METROHM_181001A	850	R138640
Sulfate	0.08	mg/L	J	1	0.01	E300.0	10/10/18 07:37 / SR			IC METROHM_181001A	850	R138640
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	10/11/18 09:47 / sld			WATERCALC_181011A	35	R138914
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Antimony	ND	mg/L		0.0005	0.00009	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Arsenic	ND	mg/L		0.001	0.00004	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Barium	ND	mg/L		0.003	0.00002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Boron	ND	mg/L		0.1	0.006	E200.7	10/10/18 19:24 / sld	10/09/18 11:21		ICP2-HE_181010A	106	R138906
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Calcium	ND	mg/L		1	0.07	E200.7	10/10/18 19:24 / sld	10/09/18 11:21		ICP2-HE_181010A	106	R138906
Chromium	ND	mg/L		0.01	0.0002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Cobalt	ND	mg/L		0.01	0.00009	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Copper	0.0002	mg/L	J	0.001	0.0001	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Iron	ND	mg/L		0.02	0.002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Lead	ND	mg/L		0.0003	0.00003	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Magnesium	ND	mg/L		1	0.01	E200.7	10/10/18 19:24 / sld	10/09/18 11:21		ICP2-HE_181010A	106	R138906
Manganese	ND	mg/L		0.001	0.0003	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Mercury	1.1E-06	mg/L	J	5E-06	1E-06	E245.1	10/18/18 19:56 / dck	10/18/18 10:20	E245.1	HGCV202-H_181018A	119	43485
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Nickel	ND	mg/L		0.002	0.0002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Potassium	ND	mg/L		1	0.06	E200.7	10/10/18 19:24 / sld	10/09/18 11:21		ICP2-HE_181010A	106	R138906
Selenium	ND	mg/L		0.001	0.00002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Silver	ND	mg/L		0.0002	0.00002	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Sodium	0.18	mg/L	J	1	0.02	E200.7	10/10/18 19:24 / sld	10/09/18 11:21		ICP2-HE_181010A	106	R138906
Uranium	ND	mg/L		0.0002	0.00001	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Vanadium	ND	mg/L		0.1	0.00007	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895
Zinc	0.0005	mg/L	J	0.008	0.0003	E200.8	10/10/18 14:53 / sld	10/09/18 11:21		ICPMS205-H_181010A	114	R138895

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 181018wa-hg202

Run ID :Run Order: **HGCV202-H_181018A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 13:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000101	0.00010	0.0001	0	101	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 38** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 14:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000105	0.00010	0.0001	0	105	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 53** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 62** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 15:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	106	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 181018wa-hg202

Run ID :Run Order: **HGCV202-H_181018A: 62** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 15:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 71** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 16:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	**106**	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 99** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 18:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000105	0.00010	0.0001	0	**105**	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 115** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 19:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000106	0.00010	0.0001	0	**106**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 181018wa-hg202

Run ID :Run Order: **HGCV202-H_181018A: 115** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **10/18/18 19:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 43483

Run ID :Run Order: **HGCV202-H_181018A: 12** SampType: **Method Blank** Lab ID: **MB-43483** Method: **E245.1**
Analysis Date: **10/18/18 13:07** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-013B**

Run ID :Run Order: **HGCV202-H_181018A: 13** SampType: **Laboratory Control Sample** Lab ID: **LCS-43483** Method: **E245.1**
Analysis Date: **10/18/18 13:10** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.66E-05	0.00010	0.000075	0	102	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-013B**

Run ID :Run Order: **HGCV202-H_181018A: 18** SampType: **Sample Matrix Spike** Lab ID: **H18100162-001BMS** Method: **E245.1**
Analysis Date: **10/18/18 13:30** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.81E-05	5.0E-06	0.000075	0.00000164	102	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-013B**

Run ID :Run Order: **HGCV202-H_181018A: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100162-001BMSD** Method: **E245.1**
Analysis Date: **10/18/18 13:34** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.63E-05	5.0E-06	0.000075	0.00000164	100	70	130	0.00007811	2.3	20	

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-013B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 43484

Run ID :Run Order: **HGCV202-H_181018A: 41** SampType: **Laboratory Control Sample** Lab ID: **LCS-43484** Method: **E245.1**

Analysis Date: **10/18/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.39E-05	0.00010	0.000075	0.0000013	97	90	110				

Associated samples: **H18100230-010B, H18100230-011B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B**

Run ID :Run Order: **HGCV202-H_181018A: 48** SampType: **Sample Matrix Spike** Lab ID: **H18100230-015BMS** Method: **E245.1**

Analysis Date: **10/18/18 15:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.92E-05	5.0E-06	0.000075	0.00000325	101	70	130				

Associated samples: **H18100230-010B, H18100230-011B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B**

Run ID :Run Order: **HGCV202-H_181018A: 49** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-015BMSD** Method: **E245.1**

Analysis Date: **10/18/18 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.61E-05	5.0E-06	0.000075	0.00000325	97	70	130	0.00007922	4.0	20	

Associated samples: **H18100230-010B, H18100230-011B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B**

Run ID :Run Order: **HGCV202-H_181018A: 60** SampType: **Sample Matrix Spike** Lab ID: **H18100230-023BMS** Method: **E245.1**

Analysis Date: **10/18/18 15:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.62E-05	5.0E-06	0.000075	0.00000243	98	70	130				

Associated samples: **H18100230-010B, H18100230-011B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 43484

Run ID :Run Order: **HGCV202-H_181018A: 61** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-023BMSD** Method: **E245.1**

Analysis Date: **10/18/18 15:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.40E-05	5.0E-06	0.000075	0.00000243	95	70	130	0.00007622	2.9	20	

Associated samples: **H18100230-010B, H18100230-011B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B**

Run ID :Run Order: **HGCV202-H_181018A: 101** SampType: **Method Blank** Lab ID: **MB-43484** Method: **E245.1**

Analysis Date: **10/18/18 18:51** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18100230-010B, H18100230-011B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: 43485

Run ID :Run Order: **HGCV202-H_181018A: 106** SampType: **Method Blank** Lab ID: **MB-43485** Method: **E245.1**
Analysis Date: **10/18/18 19:11** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1E-06									

Associated samples: **H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 107** SampType: **Laboratory Control Sample** Lab ID: **LCS-43485** Method: **E245.1**
Analysis Date: **10/18/18 19:14** Units: **mg/L** **Prep Info:** Prep Date: **10/17/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.38E-05	0.00010	0.000075	0	**98**	90	110				

Associated samples: **H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 121** SampType: **Sample Matrix Spike** Lab ID: **H18100312-001BMS** Method: **E245.1**
Analysis Date: **10/18/18 20:03** Units: **mg/L** **Prep Info:** Prep Date: **10/18/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.61E-05	5.0E-06	0.000075	0	**101**	70	130				

Associated samples: **H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 122** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100312-001BMSD** Method: **E245.1**
Analysis Date: **10/18/18 20:06** Units: **mg/L** **Prep Info:** Prep Date: **10/18/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	7.57E-05	5.0E-06	0.000075	0	**101**	70	130	0.00007607	**0.4**	20	

Associated samples: **H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **10/01/18 09:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **10/01/18 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	95.1	1.0	100	0	**95**	90	110				
Sulfate	370	1.0	400	0	**93**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **10/01/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	23.4	1.0	25	0	**94**	90	110				
Sulfate	92.6	1.0	100	0	**93**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 760** SampType: **Sample Matrix Spike** Lab ID: **H18100223-002AMS** Method: **E300.0**

Analysis Date: **10/09/18 08:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.0	1.0	25	6.886	**105**	90	110				
Sulfate	167	1.0	100	65.4	**102**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 760** SampType: **Sample Matrix Spike** Lab ID: **H18100223-002AMS** Method: **E300.0**

Analysis Date: **10/09/18 08:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 761** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100223-002AMSD** Method: **E300.0**

Analysis Date: **10/09/18 09:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.1	1.0	25	6.886	**105**	90	110	33.04	**0.2**	20	
Sulfate	168	1.0	100	65.4	**103**	90	110	167.5	**0.4**	20	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 762** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 09:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	54.6	1.0	50	0	**109**	90	110				
Sulfate	220	1.0	200	0	**110**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 790** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 16:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.0	1.0	50	0	**106**	90	110				
Sulfate	215	1.0	200	0	**107**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 790** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 16:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 802** SampType: **Sample Matrix Spike** Lab ID: **H18100230-006AMS** Method: **E300.0**

Analysis Date: **10/09/18 19:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	47.1	1.0	25	20.28	**107**	90	110				
Sulfate	385	1.0	100	279	**106**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 803** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-006AMSD** Method: **E300.0**

Analysis Date: **10/09/18 19:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.7	1.0	25	20.28	**106**	90	110	47.09	**0.8**	20	
Sulfate	381	1.0	100	279	**102**	90	110	385.2	**1.1**	20	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 804** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.8	1.0	50	0	**106**	90	110				
Sulfate	213	1.0	200	0	**107**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 804** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 19:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 816** SampType: **Sample Matrix Spike** Lab ID: **H18100230-016AMS** Method: **E300.0**

Analysis Date: **10/09/18 22:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.6	1.0	25	50.21	**106**	90	110				
Sulfate	214	1.0	100	110.2	**104**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 817** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-016AMSD** Method: **E300.0**

Analysis Date: **10/09/18 23:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	76.8	1.0	25	50.21	**106**	90	110	76.6	**0.3**	20	
Sulfate	216	1.0	100	110.2	**105**	90	110	214.3	**0.5**	20	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 818** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 23:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.3	1.0	50	0	**105**	90	110				
Sulfate	211	1.0	200	0	**105**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 818** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/09/18 23:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 830** SampType: **Sample Matrix Spike** Lab ID: **H18100230-026AMS** Method: **E300.0**

Analysis Date: **10/10/18 02:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	59.2	1.0	25	33.66	**102**	90	110				
Sulfate	181	1.0	100	79.11	**102**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 831** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-026AMSD** Method: **E300.0**

Analysis Date: **10/10/18 02:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	59.3	1.0	25	33.66	**102**	90	110	59.22	**0.1**	20	
Sulfate	182	1.0	100	79.11	**103**	90	110	181.5	**0.1**	20	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 832** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/10/18 02:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.4	1.0	50	0	**105**	90	110				
Sulfate	211	1.0	200	0	**105**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 832** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/10/18 02:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 844** SampType: **Sample Matrix Spike** Lab ID: **H18100230-036AMS** Method: **E300.0**

Analysis Date: **10/10/18 05:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	64.1	1.0	25	39.06	**100**	90	110				
Sulfate	218	1.0	100	117.6	**101**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 845** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-036AMSD** Method: **E300.0**

Analysis Date: **10/10/18 06:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	64.0	1.0	25	39.06	**100**	90	110	64.08	**0.2**	20	
Sulfate	218	1.0	100	117.6	**100**	90	110	218.2	**0.3**	20	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 846** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/10/18 06:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.4	1.0	50	0	**107**	90	110				
Sulfate	212	1.0	200	0	**106**	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 846** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/10/18 06:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 1059** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/12/18 12:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.4	1.0	50	0	105	90	110				
Sulfate	208	1.0	200	0	104	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 1064** SampType: **Sample Matrix Spike** Lab ID: **H18100343-006AMS** Method: **E300.0**

Analysis Date: **10/12/18 13:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.5	1.0	25	5.867	103	90	110				
Sulfate	150	1.0	100	50.33	100	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 1065** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100343-006AMSD** Method: **E300.0**

Analysis Date: **10/12/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.4	1.0	25	5.867	102	90	110	31.49	0.4	20	
Sulfate	151	1.0	100	50.33	101	90	110	149.9	0.8	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138640

Run ID :Run Order: **IC METROHM_181001A: 1065** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100343-006AMSD** Method: **E300.0**

Analysis Date: **10/12/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Run ID :Run Order: **IC METROHM_181001A: 1073** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **10/12/18 15:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.8	1.0	50	0	**106**	90	110				
Sulfate	210	1.0	200	0	**105**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A, H18100230-006A, H18100230-007A, H18100230-008A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-032A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-039A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138808

Run ID :Run Order: **PHSC_101-H_181008A: 318** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **10/08/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A**

Run ID :Run Order: **PHSC_101-H_181008A: 319** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **10/08/18 17:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	**101**	90	110				

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A**

Run ID :Run Order: **PHSC_101-H_181008A: 322** SampType: **Sample Duplicate** Lab ID: **H18100223-006ADUP** Method: **A2320 B**

Analysis Date: **10/08/18 18:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	76	4.0		0				75.4	**1.1**	10	
Bicarbonate as HCO3	92	4.0		0				91.38	**1.1**	10	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A**

Run ID :Run Order: **PHSC_101-H_181008A: 362** SampType: **Sample Duplicate** Lab ID: **H18100230-005ADUP** Method: **A2320 B**

Analysis Date: **10/08/18 20:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	43	4.0		0				41.27	**4.3**	10	
Bicarbonate as HCO3	52	4.0		0				49.53	**4.3**	10	

Associated samples: **H18100230-001A, H18100230-002A, H18100230-003A, H18100230-004A, H18100230-005A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138841

Run ID :Run Order: **PHSC_101-H_181009A: 6** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **10/09/18 09:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Run ID :Run Order: **PHSC_101-H_181009A: 7** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **10/09/18 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	2	**98**	90	110				

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Run ID :Run Order: **PHSC_101-H_181009A: 12** SampType: **Sample Duplicate** Lab ID: **H18100230-007ADUP** Method: **A2320 B**

Analysis Date: **10/09/18 10:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0		0				121	**2.2**	10	
Bicarbonate as HCO3	150	4.0		0				147.1	**2.3**	10	

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Run ID :Run Order: **PHSC_101-H_181009A: 48** SampType: **Sample Duplicate** Lab ID: **H18100230-024ADUP** Method: **A2320 B**

Analysis Date: **10/09/18 12:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	180	4.0		0				176.5	**0.1**	10	
Bicarbonate as HCO3	210	4.0		0				214.7	**0.1**	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138841

Run ID :Run Order: **PHSC_101-H_181009A: 48** SampType: **Sample Duplicate** Lab ID: **H18100230-024ADUP** Method: **A2320 B**

Analysis Date: **10/09/18 12:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Run ID :Run Order: **PHSC_101-H_181009A: 52** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **10/09/18 12:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Run ID :Run Order: **PHSC_101-H_181009A: 53** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **10/09/18 13:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	98	90	110				

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Run ID :Run Order: **PHSC_101-H_181009A: 58** SampType: **Sample Duplicate** Lab ID: **H18100230-027ADUP** Method: **A2320 B**

Analysis Date: **10/09/18 13:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	43	4.0		0				43.25	0.3	10	
Bicarbonate as HCO3	52	4.0		0				52.16	0.4	10	

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138841

Run ID :Run Order: **PHSC_101-H_181009A: 78** SampType: **Sample Duplicate** Lab ID: **H18100230-036ADUP** Method: **A2320 B**

Analysis Date: **10/09/18 15:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	140	4.0		0				141.8	**0.0**	10	
Bicarbonate as HCO3	170	4.0		0				172.4	**0.0**	10	

Associated samples: **H18100230-006A, H18100230-007A, H18100230-008A, H18100230-009A, H18100230-010A, H18100230-011A, H18100230-012A, H18100230-013A, H18100230-014A, H18100230-015A, H18100230-016A, H18100230-017A, H18100230-018A, H18100230-019A, H18100230-020A, H18100230-021A, H18100230-022A, H18100230-023A, H18100230-024A, H18100230-025A, H18100230-026A, H18100230-027A, H18100230-028A, H18100230-030A, H18100230-031A, H18100230-032A, H18100230-033A, H18100230-034A, H18100230-035A, H18100230-036A, H18100230-037A, H18100230-038A, H18100230-039A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 28** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **10/10/18 12:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0651	0.050	0.06	0	109	90	110				
Arsenic	0.0610	0.0050	0.06	0	102	90	110				
Barium	0.0626	0.10	0.06	0	104	90	110				
Beryllium	0.0291	0.0010	0.03	0	97	90	110				
Cadmium	0.0315	0.0010	0.03	0	105	90	110				
Chromium	0.0614	0.010	0.06	0	102	90	110				
Cobalt	0.0615	0.010	0.06	0	103	90	110				
Copper	0.0619	0.010	0.06	0	103	90	110				
Iron	0.318	0.020	0.3	0	106	90	110				
Lead	0.0609	0.010	0.06	0	102	90	110				
Magnesium	3.07	0.50	3	0	102	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0623	0.0050	0.06	0	104	90	110				
Nickel	0.0614	0.010	0.06	0	102	90	110				
Selenium	0.0606	0.0050	0.06	0	101	90	110				
Silver	0.0313	0.0050	0.03	0	104	90	110				
Sodium	3.08	0.50	3	0	103	90	110				
Uranium	0.0580	0.00030	0.06	0	97	90	110				
Vanadium	0.0608	0.10	0.06	0	101	90	110				
Zinc	0.0625	0.010	0.06	0	104	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **10/10/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.7	0.10	40	0	104	70	130				
Antimony	0.000252	0.050		0							
Arsenic	7.10E-05	0.0050		0							

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limit; R - RPD outside accepted recovery limits; N - Analyte concentration was not sufficiently high to calculate RPD; A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 29** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **10/10/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.10E-05	0.10		0							
Beryllium	1.87E-05	0.0010		0							
Cadmium	0.000185	0.0010		0							
Chromium	0.00126	0.010		0							
Cobalt	1.06E-05	0.010		0							
Copper	0.000221	0.010		0							
Iron	104	0.020	100	0	104	70	130				
Lead	0.000120	0.010		0							
Magnesium	42.1	0.50	40	0	105	70	130				
Manganese	0.000204	0.010		0							
Molybdenum	0.851	0.0050	0.8	0	106	70	130				
Nickel	0.000149	0.010		0							
Selenium	8.64E-05	0.0050		0							
Silver	0.000126	0.0050		0							
Sodium	104	0.50	100	0	104	70	130				
Uranium	1.56E-05	0.00030		0							
Vanadium	2.39E-05	0.10		0							
Zinc	0.000380	0.010		0							

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **10/10/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.2	0.10	40	0	105	70	130				
Antimony	0.000124	0.050		0		0	0				
Arsenic	0.0107	0.0050	0.01	0	107	70	130				
Barium	5.17E-05	0.10		0		0	0				
Beryllium	-5.60E-06	0.0010		0		0	0				
Cadmium	0.0105	0.0010	0.01	0	105	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 30** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **10/10/18 12:10** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0220	0.010	0.02	0	110	70	130				
Cobalt	0.0207	0.010	0.02	0	104	70	130				
Copper	0.0206	0.010	0.02	0	103	70	130				
Iron	106	0.020	100	0	106	70	130				
Lead	9.58E-05	0.010		0		0	0				
Magnesium	41.9	0.50	40	0	105	70	130				
Manganese	0.0210	0.010	0.02	0	105	70	130				
Molybdenum	0.869	0.0050	0.8	0	109	70	130				
Nickel	0.0209	0.010	0.02	0	105	70	130				
Selenium	0.00984	0.0050	0.01	0	98	70	130				
Silver	0.0201	0.0050	0.02	0	101	70	130				
Sodium	104	0.50	100	0	104	70	130				
Uranium	3.90E-06	0.00030		0		0	0				
Vanadium	0.0208	0.10	0.02	0	104	70	130				
Zinc	0.0105	0.010	0.01	0	105	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 35** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **10/10/18 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 35** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **10/10/18 12:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.002									
Lead	3E-05	3E-05									
Magnesium	ND	0.004									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Sodium	ND	0.01									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 36** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **10/10/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.10	0.05	0	**102**	85	115				
Antimony	0.0526	0.050	0.05	0	**105**	85	115				
Arsenic	0.0510	0.0050	0.05	0	**102**	85	115				
Barium	0.0509	0.10	0.05	0	**102**	85	115				
Beryllium	0.0483	0.0010	0.05	0	**97**	85	115				
Cadmium	0.0514	0.0010	0.05	0	**103**	85	115				
Chromium	0.0507	0.010	0.05	0	**101**	85	115				
Cobalt	0.0509	0.010	0.05	0	**102**	85	115				
Copper	0.0518	0.010	0.05	0	**104**	85	115				
Iron	0.156	0.020	0.15	0	**104**	85	115				
Lead	0.0504	0.010	0.05	0.00003073	**101**	85	115				
Magnesium	1.03	0.50	1	0	**103**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 36** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **10/10/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0508	0.010	0.05	0	102	85	115				
Molybdenum	0.0494	0.0050	0.05	0	99	85	115				
Nickel	0.0516	0.010	0.05	0	103	85	115				
Selenium	0.0504	0.0050	0.05	0	101	85	115				
Silver	0.0207	0.0050	0.02	0	103	85	115				
Sodium	1.06	0.50	1	0	106	85	115				
Uranium	0.0504	0.00030	0.05	0	101	85	115				
Vanadium	0.0498	0.10	0.05	0	100	85	115				
Zinc	0.0530	0.010	0.05	0	106	85	115				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 39** SampType: **Method Blank** Lab ID: **MB-43390** Method: **E200.8**

Analysis Date: **10/10/18 12:28** Units: **mg/L** **Prep Info:** Prep Date: **10/9/2018** Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	3E-05	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	0.0002	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Magnesium	ND	0.004									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 39** SampType: **Method Blank** Lab ID: **MB-43390** Method: **E200.8**

Analysis Date: **10/10/18 12:28** Units: **mg/L** **Prep Info:** Prep Date: **10/9/2018** Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	4E-05	2E-05									
Silver	ND	2E-05									
Sodium	ND	0.01									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	0.0008	0.0003									

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18100229-001BMS** Method: **E200.8**

Analysis Date: **10/10/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0533	0.030	0.05	0	107	70	130				
Antimony	0.0559	0.0010	0.05	0.000103	112	70	130				
Arsenic	0.0586	0.0010	0.05	0.003646	110	70	130				
Barium	0.0960	0.050	0.05	0.0445	103	70	130				
Beryllium	0.0474	0.0010	0.05	0	95	70	130				
Cadmium	0.0534	0.0010	0.05	0	107	70	130				
Chromium	0.0511	0.0050	0.05	0	102	70	130				
Cobalt	0.0513	0.0050	0.05	0	103	70	130				
Copper	0.0526	0.0050	0.05	0.0007665	104	70	130				
Iron	0.156	0.020	0.15	0	104	70	130				
Lead	0.0533	0.0010	0.05	0.0000898	106	70	130				
Magnesium	23.6	1.0	1	22.43		70	130				A
Manganese	0.0537	0.0010	0.05	0.00264	102	70	130				
Molybdenum	0.0576	0.0010	0.05	0.004879	105	70	130				
Nickel	0.0512	0.0050	0.05	0	102	70	130				
Selenium	0.0599	0.0010	0.05	0.003934	112	70	130				
Silver	0.0211	0.0010	0.02	0	106	70	130				
Sodium	36.4	1.0	1	34.71		70	130				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18100229-001BMS** Method: **E200.8**

Analysis Date: **10/10/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.136	0.00030	0.05	0.08142	110	70	130				
Vanadium	0.0534	0.010	0.05	0.002442	102	70	130				
Zinc	0.0561	0.010	0.05	0.004441	103	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-001BMSD** Method: **E200.8**

Analysis Date: **10/10/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0533	0.030	0.05	0	107	70	130	0.05328	0.1	20	
Antimony	0.0557	0.0010	0.05	0.000103	111	70	130	0.0559	0.3	20	
Arsenic	0.0584	0.0010	0.05	0.003646	109	70	130	0.05856	0.4	20	
Barium	0.0964	0.050	0.05	0.0445	104	70	130	0.09597	0.4	20	
Beryllium	0.0487	0.0010	0.05	0	97	70	130	0.04735	2.9	20	
Cadmium	0.0536	0.0010	0.05	0	107	70	130	0.05343	0.4	20	
Chromium	0.0510	0.0050	0.05	0	102	70	130	0.05112	0.3	20	
Cobalt	0.0511	0.0050	0.05	0	102	70	130	0.05126	0.4	20	
Copper	0.0523	0.0050	0.05	0.0007665	103	70	130	0.05261	0.7	20	
Iron	0.157	0.020	0.15	0	105	70	130	0.1562	0.4	20	
Lead	0.0522	0.0010	0.05	0.0000898	104	70	130	0.05328	2.0	20	
Magnesium	23.1	1.0	1	22.43		70	130	23.64	2.4	20	A
Manganese	0.0538	0.0010	0.05	0.00264	102	70	130	0.05371	0.1	20	
Molybdenum	0.0576	0.0010	0.05	0.004879	105	70	130	0.05759	0.0	20	
Nickel	0.0511	0.0050	0.05	0	102	70	130	0.05122	0.3	20	
Selenium	0.0601	0.0010	0.05	0.003934	112	70	130	0.0599	0.4	20	
Silver	0.0213	0.0010	0.02	0	106	70	130	0.02113	0.8	20	
Sodium	35.6	1.0	1	34.71		70	130	36.38	2.1	20	A
Uranium	0.135	0.00030	0.05	0.08142	107	70	130	0.1363	1.2	20	
Vanadium	0.0531	0.010	0.05	0.002442	101	70	130	0.05337	0.5	20	
Zinc	0.0564	0.010	0.05	0.004441	104	70	130	0.05608	0.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-001BMSD** Method: **E200.8**

Analysis Date: **10/10/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18100230-005BMS** Method: **E200.8**

Analysis Date: **10/10/18 13:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.132	0.030	0.05	0.079	107	70	130				
Antimony	0.0554	0.0010	0.05	0	111	70	130				
Arsenic	0.0591	0.0010	0.05	0.006878	104	70	130				
Barium	0.0748	0.050	0.05	0.02069	108	70	130				
Beryllium	0.0487	0.0010	0.05	0	97	70	130				
Cadmium	0.0570	0.0010	0.05	0.003156	108	70	130				
Chromium	0.0508	0.0050	0.05	0	102	70	130				
Cobalt	0.0765	0.0050	0.05	0.02428	104	70	130				
Copper	0.0572	0.0050	0.05	0.005537	103	70	130				
Iron	13.0	0.020	0.15	12.39		70	130				AE
Lead	0.0523	0.0010	0.05	0	105	70	130				
Magnesium	16.4	1.0	1	14.96		70	130				A
Manganese	12.7	0.0010	0.05	12.51		70	130				AE
Molybdenum	0.0533	0.0010	0.05	0.001108	104	70	130				
Nickel	0.0618	0.0050	0.05	0.0104	103	70	130				
Selenium	0.0547	0.0010	0.05	0.00002808	109	70	130				
Silver	0.0212	0.0010	0.02	0	106	70	130				
Sodium	36.1	1.0	1	34.46		70	130				A
Uranium	0.0544	0.00030	0.05	0.0007584	107	70	130				
Vanadium	0.0505	0.010	0.05	0	101	70	130				
Zinc	4.72	0.010	0.05	4.569		70	130				AE

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 59** SampType: **Sample Matrix Spike** Lab ID: **H18100230-005BMS** Method: **E200.8**

Analysis Date: **10/10/18 13:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-005BMSD** Method: **E200.8**

Analysis Date: **10/10/18 13:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.137	0.030	0.05	0.079	115	70	130	0.1325	3.0	20	
Antimony	0.0561	0.0010	0.05	0	112	70	130	0.05542	1.3	20	
Arsenic	0.0599	0.0010	0.05	0.006878	106	70	130	0.05907	1.4	20	
Barium	0.0764	0.050	0.05	0.02069	111	70	130	0.07482	2.1	20	
Beryllium	0.0507	0.0010	0.05	0	101	70	130	0.04874	3.9	20	
Cadmium	0.0573	0.0010	0.05	0.003156	108	70	130	0.05699	0.6	20	
Chromium	0.0508	0.0050	0.05	0	102	70	130	0.0508	0.1	20	
Cobalt	0.0780	0.0050	0.05	0.02428	107	70	130	0.07648	2.0	20	
Copper	0.0579	0.0050	0.05	0.005537	105	70	130	0.05725	1.2	20	
Iron	13.6	0.020	0.15	12.39		70	130	12.97	5.0	20	AE
Lead	0.0521	0.0010	0.05	0	104	70	130	0.05234	0.4	20	
Magnesium	17.4	1.0	1	14.96		70	130	16.37	6.2	20	A
Manganese	13.6	0.0010	0.05	12.51		70	130	12.71	6.8	20	AE
Molybdenum	0.0536	0.0010	0.05	0.001108	105	70	130	0.05329	0.7	20	
Nickel	0.0629	0.0050	0.05	0.0104	105	70	130	0.06177	1.8	20	
Selenium	0.0542	0.0010	0.05	0.00002808	108	70	130	0.05474	1.0	20	
Silver	0.0214	0.0010	0.02	0	107	70	130	0.02124	0.9	20	
Sodium	38.4	1.0	1	34.46		70	130	36.12	6.2	20	A
Uranium	0.0535	0.00030	0.05	0.0007584	105	70	130	0.05435	1.6	20	
Vanadium	0.0505	0.010	0.05	0	101	70	130	0.05046	0.1	20	
Zinc	5.04	0.010	0.05	4.569		70	130	4.724	6.5	20	AE

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 60** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-005BMSD** Method: **E200.8**

Analysis Date: **10/10/18 13:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 76** SampType: **Sample Matrix Spike** Lab ID: **H18100230-016BMS** Method: **E200.8**

Analysis Date: **10/10/18 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0929	0.030	0.05	0.03192	122	70	130				
Antimony	0.0572	0.0010	0.05	0.0005222	113	70	130				
Arsenic	0.0555	0.0010	0.05	0.001914	107	70	130				
Barium	0.0922	0.050	0.05	0.03198	121	70	130				
Beryllium	0.0483	0.0010	0.05	0	97	70	130				
Cadmium	0.0823	0.0010	0.05	0.02385	117	70	130				
Chromium	0.0514	0.0050	0.05	0	103	70	130				
Cobalt	0.0660	0.0050	0.05	0.0119	108	70	130				
Copper	0.328	0.0050	0.05	0.2339		70	130				A
Iron	0.183	0.020	0.15	0.0225	107	70	130				
Lead	0.0530	0.0010	0.05	0	106	70	130				
Magnesium	11.6	1.0	1	9.13		70	130				A
Manganese	5.26	0.0010	0.05	4.551		70	130				AE
Molybdenum	0.0607	0.0010	0.05	0.007477	106	70	130				
Nickel	0.0660	0.0050	0.05	0.0119	108	70	130				
Selenium	0.0549	0.0010	0.05	0.0001747	109	70	130				
Silver	0.0214	0.0010	0.02	0	107	70	130				
Sodium	35.4	1.0	1	30.17		70	130				A
Uranium	0.0615	0.00030	0.05	0.005791	111	70	130				
Vanadium	0.0519	0.010	0.05	0.0007203	102	70	130				
Zinc	7.10	0.010	0.05	6.14		70	130				AE

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 76** SampType: **Sample Matrix Spike** Lab ID: **H18100230-016BMS** Method: **E200.8**

Analysis Date: **10/10/18 13:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 77** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-016BMSD** Method: **E200.8**

Analysis Date: **10/10/18 13:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0909	0.030	0.05	0.03192	118	70	130	0.09291	2.2	20	
Antimony	0.0564	0.0010	0.05	0.0005222	112	70	130	0.05718	1.4	20	
Arsenic	0.0552	0.0010	0.05	0.001914	106	70	130	0.05553	0.7	20	
Barium	0.0924	0.050	0.05	0.03198	121	70	130	0.09223	0.2	20	
Beryllium	0.0493	0.0010	0.05	0	99	70	130	0.04826	2.1	20	
Cadmium	0.0817	0.0010	0.05	0.02385	116	70	130	0.08227	0.7	20	
Chromium	0.0513	0.0050	0.05	0	103	70	130	0.05143	0.2	20	
Cobalt	0.0660	0.0050	0.05	0.0119	108	70	130	0.06599	0.1	20	
Copper	0.323	0.0050	0.05	0.2339		70	130	0.3278	1.4	20	A
Iron	0.183	0.020	0.15	0.0225	107	70	130	0.1833	0.1	20	
Lead	0.0529	0.0010	0.05	0	106	70	130	0.05303	0.3	20	
Magnesium	11.7	1.0	1	9.13		70	130	11.6	0.5	20	A
Manganese	5.28	0.0010	0.05	4.551		70	130	5.259	0.5	20	AE
Molybdenum	0.0603	0.0010	0.05	0.007477	106	70	130	0.06071	0.7	20	
Nickel	0.0666	0.0050	0.05	0.0119	109	70	130	0.06605	0.9	20	
Selenium	0.0544	0.0010	0.05	0.0001747	108	70	130	0.05492	1.0	20	
Silver	0.0212	0.0010	0.02	0	106	70	130	0.02135	0.7	20	
Sodium	35.0	1.0	1	30.17		70	130	35.44	1.1	20	A
Uranium	0.0605	0.00030	0.05	0.005791	109	70	130	0.06148	1.5	20	
Vanadium	0.0519	0.010	0.05	0.0007203	102	70	130	0.05186	0.2	20	
Zinc	7.18	0.010	0.05	6.14		70	130	7.095	1.1	20	AE

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 77** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-016BMSD** Method: **E200.8**

Analysis Date: **10/10/18 13:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 103** SampType: **Sample Matrix Spike** Lab ID: **H18100230-026BMS** Method: **E200.8**

Analysis Date: **10/10/18 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0542	0.030	0.05	0	108	70	130				
Antimony	0.0563	0.0010	0.05	0.0002237	112	70	130				
Arsenic	0.0576	0.0010	0.05	0.001598	112	70	130				
Barium	0.168	0.050	0.05	0.09851	138	70	130				S
Beryllium	0.0504	0.0010	0.05	0	101	70	130				
Cadmium	0.0541	0.0010	0.05	0.00002824	108	70	130				
Chromium	0.0523	0.0050	0.05	0	105	70	130				
Cobalt	0.0535	0.0050	0.05	0.0004743	106	70	130				
Copper	0.0549	0.0050	0.05	0.001404	107	70	130				
Iron	0.167	0.020	0.15	0.00505	108	70	130				
Lead	0.0528	0.0010	0.05	0	106	70	130				
Magnesium	13.3	1.0	1	11.04		70	130				A
Manganese	2.43	0.0010	0.05	2.1		70	130				AE
Molybdenum	0.0586	0.0010	0.05	0.005874	105	70	130				
Nickel	0.0544	0.0050	0.05	0.001241	106	70	130				
Selenium	0.0578	0.0010	0.05	0.0002073	115	70	130				
Silver	0.0213	0.0010	0.02	0	107	70	130				
Sodium	27.8	1.0	1	23.68		70	130				A
Uranium	0.0554	0.00030	0.05	0.002126	107	70	130				
Vanadium	0.0536	0.010	0.05	0.001351	104	70	130				
Zinc	0.127	0.010	0.05	0.06383	127	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 103** SampType: **Sample Matrix Spike** Lab ID: **H18100230-026BMS** Method: **E200.8**

Analysis Date: **10/10/18 14:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 104** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-026BMSD** Method: **E200.8**

Analysis Date: **10/10/18 14:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0556	0.030	0.05	0	111	70	130	0.05417	2.6	20	
Antimony	0.0567	0.0010	0.05	0.0002237	113	70	130	0.05632	0.7	20	
Arsenic	0.0576	0.0010	0.05	0.001598	112	70	130	0.05764	0.1	20	
Barium	0.174	0.050	0.05	0.09851	152	70	130	0.1676	3.9	20	S
Beryllium	0.0513	0.0010	0.05	0	103	70	130	0.05036	1.8	20	
Cadmium	0.0548	0.0010	0.05	0.00002824	110	70	130	0.05407	1.3	20	
Chromium	0.0531	0.0050	0.05	0	106	70	130	0.05227	1.6	20	
Cobalt	0.0537	0.0050	0.05	0.0004743	106	70	130	0.05351	0.4	20	
Copper	0.0553	0.0050	0.05	0.001404	108	70	130	0.05489	0.7	20	
Iron	0.177	0.020	0.15	0.00505	115	70	130	0.1667	6.0	20	
Lead	0.0530	0.0010	0.05	0	106	70	130	0.0528	0.3	20	
Magnesium	14.1	1.0	1	11.04		70	130	13.34	5.5	20	A
Manganese	2.53	0.0010	0.05	2.1		70	130	2.427	4.3	20	AE
Molybdenum	0.0597	0.0010	0.05	0.005874	108	70	130	0.05857	1.9	20	
Nickel	0.0546	0.0050	0.05	0.001241	107	70	130	0.05438	0.4	20	
Selenium	0.0582	0.0010	0.05	0.0002073	116	70	130	0.05778	0.7	20	
Silver	0.0216	0.0010	0.02	0	108	70	130	0.02132	1.5	20	
Sodium	29.4	1.0	1	23.68		70	130	27.78	5.5	20	A
Uranium	0.0572	0.00030	0.05	0.002126	110	70	130	0.05545	3.1	20	
Vanadium	0.0537	0.010	0.05	0.001351	105	70	130	0.05356	0.3	20	
Zinc	0.131	0.010	0.05	0.06383	135	70	130	0.1273	3.0	20	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 104** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-026BMSD** Method: **E200.8**

Analysis Date: **10/10/18 14:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 115** SampType: **Sample Matrix Spike** Lab ID: **H18100230-036BMS** Method: **E200.8**

Analysis Date: **10/10/18 14:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0591	0.030	0.05	0.003922	110	70	130				
Antimony	0.0576	0.0010	0.05	0.0001659	115	70	130				
Arsenic	0.0637	0.0010	0.05	0.007273	113	70	130				
Barium	0.148	0.050	0.05	0.07762	141	70	130				S
Beryllium	0.0560	0.0010	0.05	0	112	70	130				
Cadmium	0.0551	0.0010	0.05	0	110	70	130				
Chromium	0.0522	0.0050	0.05	0	104	70	130				
Cobalt	0.0526	0.0050	0.05	0	105	70	130				
Copper	0.0535	0.0050	0.05	0.000309	106	70	130				
Iron	0.164	0.020	0.15	0	109	70	130				
Lead	0.0544	0.0010	0.05	0	109	70	130				
Magnesium	17.9	1.0	1	14.16		70	130				A
Manganese	0.0533	0.0010	0.05	0.0005603	106	70	130				
Molybdenum	0.0676	0.0010	0.05	0.01309	109	70	130				
Nickel	0.0528	0.0050	0.05	0	105	70	130				
Selenium	0.0653	0.0010	0.05	0.001165	128	70	130				
Silver	0.0217	0.0010	0.02	0	108	70	130				
Sodium	45.5	1.0	1	39.14		70	130				A
Uranium	0.0648	0.00030	0.05	0.007331	115	70	130				
Vanadium	0.0569	0.010	0.05	0.004839	104	70	130				
Zinc	0.0548	0.010	0.05	0.0008967	108	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 115** SampType: **Sample Matrix Spike** Lab ID: **H18100230-036BMS** Method: **E200.8**

Analysis Date: **10/10/18 14:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 116** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-036BMSD** Method: **E200.8**

Analysis Date: **10/10/18 14:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0596	0.030	0.05	0.003922	111	70	130	0.05909	0.9	20	
Antimony	0.0574	0.0010	0.05	0.0001659	115	70	130	0.0576	0.3	20	
Arsenic	0.0632	0.0010	0.05	0.007273	112	70	130	0.0637	0.8	20	
Barium	0.146	0.050	0.05	0.07762	136	70	130	0.148	1.5	20	S
Beryllium	0.0512	0.0010	0.05	0	102	70	130	0.05604	9.1	20	
Cadmium	0.0554	0.0010	0.05	0	111	70	130	0.05511	0.5	20	
Chromium	0.0526	0.0050	0.05	0	105	70	130	0.05222	0.7	20	
Cobalt	0.0526	0.0050	0.05	0	105	70	130	0.05257	0.1	20	
Copper	0.0532	0.0050	0.05	0.000309	106	70	130	0.05351	0.7	20	
Iron	0.163	0.020	0.15	0	109	70	130	0.1637	0.4	20	
Lead	0.0540	0.0010	0.05	0	108	70	130	0.05438	0.8	20	
Magnesium	17.3	1.0	1	14.16		70	130	17.94	3.6	20	A
Manganese	0.0533	0.0010	0.05	0.0005603	105	70	130	0.05332	0.0	20	
Molybdenum	0.0674	0.0010	0.05	0.01309	109	70	130	0.06758	0.2	20	
Nickel	0.0524	0.0050	0.05	0	105	70	130	0.05275	0.6	20	
Selenium	0.0619	0.0010	0.05	0.001165	121	70	130	0.06532	5.4	20	
Silver	0.0218	0.0010	0.02	0	109	70	130	0.0217	0.5	20	
Sodium	45.0	1.0	1	39.14		70	130	45.46	1.0	20	A
Uranium	0.0626	0.00030	0.05	0.007331	111	70	130	0.06479	3.4	20	
Vanadium	0.0570	0.010	0.05	0.004839	104	70	130	0.0569	0.1	20	
Zinc	0.0552	0.010	0.05	0.0008967	109	70	130	0.05477	0.9	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 116** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-036BMSD** Method: **E200.8**

Analysis Date: **10/10/18 14:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 123** SampType: **Method Blank** Lab ID: **MB-43393** Method: **E200.8**

Analysis Date: **10/10/18 15:11** Units: **mg/L** **Prep Info:** Prep Date: **10/9/2018** Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.005	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	7E-05	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	0.0004	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Magnesium	ND	0.004									
Manganese	0.0004	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Sodium	0.06	0.01									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	0.005	0.0003									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 123** SampType: **Method Blank** Lab ID: **MB-43393** Method: **E200.8**

Analysis Date: **10/10/18 15:11** Units: **mg/L** **Prep Info:** Prep Date: **10/9/2018** Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 131** SampType: **Sample Matrix Spike** Lab ID: **H18100253-004BMS** Method: **E200.8**

Analysis Date: **10/10/18 15:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0552	0.030	0.05	0	110	70	130				
Antimony	0.0561	0.0010	0.05	0	112	70	130				
Arsenic	0.0559	0.0010	0.05	0.0001146	112	70	130				
Barium	0.0851	0.050	0.05	0.03283	104	70	130				
Beryllium	0.0517	0.0010	0.05	0	103	70	130				
Cadmium	0.0561	0.0010	0.05	0.001442	109	70	130				
Chromium	0.0533	0.0050	0.05	0	107	70	130				
Cobalt	0.0537	0.0050	0.05	0	107	70	130				
Copper	0.0554	0.0050	0.05	0.001441	108	70	130				
Iron	0.166	0.020	0.15	0	111	70	130				
Lead	0.0536	0.0010	0.05	0	107	70	130				
Magnesium	10.7	1.0	1	9.699		70	130				A
Manganese	0.0534	0.0010	0.05	0	107	70	130				
Molybdenum	0.0528	0.0010	0.05	0.0002032	105	70	130				
Nickel	0.0545	0.0050	0.05	0.0004929	108	70	130				
Selenium	0.0573	0.0010	0.05	0.000107	114	70	130				
Silver	0.0215	0.0010	0.02	0	108	70	130				
Sodium	3.41	1.0	1	2.301	111	70	130				
Uranium	0.0582	0.00030	0.05	0.002883	111	70	130				
Vanadium	0.0523	0.010	0.05	0	105	70	130				
Zinc	0.379	0.010	0.05	0.3273		70	130				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 131** SampType: **Sample Matrix Spike** Lab ID: **H18100253-004BMS** Method: **E200.8**

Analysis Date: **10/10/18 15:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICPMS205-H_181010A: 132** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100253-004BMSD** Method: **E200.8**

Analysis Date: **10/10/18 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0548	0.030	0.05	0	110	70	130	0.05523	0.7	20	
Antimony	0.0564	0.0010	0.05	0	113	70	130	0.05609	0.5	20	
Arsenic	0.0556	0.0010	0.05	0.0001146	111	70	130	0.05593	0.6	20	
Barium	0.0864	0.050	0.05	0.03283	107	70	130	0.08508	1.6	20	
Beryllium	0.0508	0.0010	0.05	0	102	70	130	0.05172	1.8	20	
Cadmium	0.0566	0.0010	0.05	0.001442	110	70	130	0.05611	0.9	20	
Chromium	0.0529	0.0050	0.05	0	106	70	130	0.05333	0.9	20	
Cobalt	0.0533	0.0050	0.05	0	107	70	130	0.05367	0.8	20	
Copper	0.0550	0.0050	0.05	0.001441	107	70	130	0.0554	0.7	20	
Iron	0.164	0.020	0.15	0	109	70	130	0.1659	1.3	20	
Lead	0.0545	0.0010	0.05	0	109	70	130	0.05363	1.5	20	
Magnesium	10.6	1.0	1	9.699		70	130	10.73	1.0	20	A
Manganese	0.0532	0.0010	0.05	0	106	70	130	0.05345	0.5	20	
Molybdenum	0.0531	0.0010	0.05	0.0002032	106	70	130	0.0528	0.6	20	
Nickel	0.0540	0.0050	0.05	0.0004929	107	70	130	0.05453	1.1	20	
Selenium	0.0573	0.0010	0.05	0.000107	114	70	130	0.05734	0.1	20	
Silver	0.0218	0.0010	0.02	0	109	70	130	0.02155	1.3	20	
Sodium	3.38	1.0	1	2.301	108	70	130	3.414	1.0	20	
Uranium	0.0594	0.00030	0.05	0.002883	113	70	130	0.05825	2.0	20	
Vanadium	0.0521	0.010	0.05	0	104	70	130	0.05233	0.5	20	
Zinc	0.380	0.010	0.05	0.3273		70	130	0.3787	0.4	20	A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138895

Run ID :Run Order: **ICPMS205-H_181010A: 132** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100253-004BMSD** Method: **E200.8**

Analysis Date: **10/10/18 15:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 21	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **10/10/18 13:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.765	0.10	0.8	0	**96**	95	105				
Calcium	38.7	1.0	40	0	**97**	95	105				
Copper	0.809	0.012	0.8	0	**101**	95	105				
Iron	3.90	0.020	4	0	**98**	95	105				
Magnesium	38.5	1.0	40	0	**96**	95	105				
Manganese	3.93	0.010	4	0	**98**	95	105				
Potassium	41.6	1.0	40	0	**104**	95	105				
Sodium	42.0	1.0	40	0	**105**	95	105				
Zinc	0.774	0.010	0.8	0	**97**	95	105				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **10/10/18 13:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.767	0.10	0.8	0	**96**	95	105				
Calcium	39.1	1.0	40	0	**98**	95	105				
Copper	0.792	0.012	0.8	0	**99**	95	105				
Iron	3.92	0.020	4	0	**98**	95	105				
Magnesium	38.9	1.0	40	0	**97**	95	105				
Manganese	3.97	0.010	4	0	**99**	95	105				
Potassium	40.1	1.0	40	0	**100**	95	105				
Sodium	40.4	1.0	40	0	**101**	95	105				
Zinc	0.785	0.010	0.8	0	**98**	95	105				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **10/10/18 13:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	95	105				
Calcium	25.1	1.0	25	0	100	95	105				
Copper	2.48	0.012	2.5	0	99	95	105				
Iron	2.46	0.020	2.5	0	99	95	105				
Magnesium	24.5	1.0	25	0	98	95	105				
Manganese	2.48	0.010	2.5	0	99	95	105				
Potassium	24.7	1.0	25	0	99	95	105				
Sodium	24.6	1.0	25	0	98	95	105				
Zinc	2.47	0.010	2.5	0	99	95	105				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **10/10/18 13:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00346	0.10		0		0	0				
Calcium	473	1.0	500	0	95	80	120				
Copper	-0.00345	0.012		0		0	0				
Iron	182	0.020	200	0	91	80	120				
Magnesium	521	1.0	500	0	104	80	120				
Manganese	-0.0324	0.010		0		0	0				
Potassium	-0.0352	1.0		0		0	0				
Sodium	0.0326	1.0		0		0	0				
Zinc	0.00292	0.010		0		0	0				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **10/10/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.955	0.10	1	0	**95**	80	120				
Calcium	469	1.0	500	0	**94**	80	120				
Copper	0.502	0.012	0.5	0	**100**	80	120				
Iron	180	0.020	200	0	**90**	80	120				
Magnesium	517	1.0	500	0	**103**	80	120				
Manganese	0.447	0.010	0.5	0	**89**	80	120				
Potassium	19.9	1.0	20	0	**100**	80	120				
Sodium	19.9	1.0	20	0	**99**	80	120				
Zinc	0.987	0.010	1	0	**99**	80	120				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 15** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **10/10/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Copper	ND	0.01									
Iron	ND	0.01									
Magnesium	ND	0.01									
Manganese	ND	0.002									
Potassium	ND	0.06									
Sodium	ND	0.02									
Zinc	ND	0.003									

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
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Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 16** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **10/10/18 13:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.962	0.10	1	0	96	85	115				
Calcium	51.7	1.0	50	0	103	85	115				
Copper	1.05	0.012	1	0	105	85	115				
Iron	5.20	0.020	5	0	104	85	115				
Magnesium	51.9	1.0	50	0	104	85	115				
Manganese	5.23	0.010	5	0	105	85	115				
Potassium	53.6	1.0	50	0	107	85	115				
Sodium	54.2	1.0	50	0	108	85	115				
Zinc	0.992	0.010	1	0	99	85	115				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 32** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 14:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.50	0.10	2.5	0	100	90	110				
Calcium	25.2	1.0	25	0	101	90	110				
Copper	2.54	0.012	2.5	0	101	90	110				
Iron	2.51	0.020	2.5	0	100	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Manganese	2.52	0.010	2.5	0	101	90	110				
Potassium	24.9	1.0	25	0	99	90	110				
Sodium	24.9	1.0	25	0	100	90	110				
Zinc	2.51	0.010	2.5	0	100	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
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Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 40** SampType: **Sample Matrix Spike** Lab ID: **H18100229-006BMS2** Method: **E200.7**

Analysis Date: **10/10/18 15:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.1509	90	70	130				
Calcium	106	1.0	50	51.3	109	70	130				
Copper	1.08	0.012	1	0	108	70	130				
Iron	5.34	0.020	5	0	107	70	130				
Magnesium	64.0	1.0	50	9.352	109	70	130				
Manganese	5.41	0.0016	5	0	108	70	130				
Potassium	54.6	1.0	50	0.1163	109	70	130				
Sodium	110	1.0	50	55.02	110	70	130				
Zinc	0.953	0.010	1	0.00432	95	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 41** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-006BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 15:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.08	0.050	1	0.1509	93	70	130	1.054	2.4	20	
Calcium	106	1.0	50	51.3	109	70	130	106	0.1	20	
Copper	1.08	0.012	1	0	108	70	130	1.082	0.2	20	
Iron	5.27	0.020	5	0	105	70	130	5.344	1.3	20	
Magnesium	63.4	1.0	50	9.352	108	70	130	63.97	1.0	20	
Manganese	5.34	0.0016	5	0	107	70	130	5.407	1.2	20	
Potassium	54.2	1.0	50	0.1163	108	70	130	54.59	0.7	20	
Sodium	111	1.0	50	55.02	111	70	130	109.9	0.6	20	
Zinc	0.977	0.010	1	0.00432	97	70	130	0.9533	2.4	20	

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 44** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 15:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.10	2.5	0	**98**	90	110				
Calcium	25.2	1.0	25	0	**101**	90	110				
Copper	2.51	0.012	2.5	0	**100**	90	110				
Iron	2.48	0.020	2.5	0	**99**	90	110				
Magnesium	24.6	1.0	25	0	**99**	90	110				
Manganese	2.50	0.010	2.5	0	**100**	90	110				
Potassium	25.0	1.0	25	0	**100**	90	110				
Sodium	25.2	1.0	25	0	**101**	90	110				
Zinc	2.49	0.010	2.5	0	**100**	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 56** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 16:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.10	2.5	0	**98**	90	110				
Calcium	24.7	1.0	25	0	**99**	90	110				
Copper	2.55	0.012	2.5	0	**102**	90	110				
Iron	2.47	0.020	2.5	0	**99**	90	110				
Magnesium	24.2	1.0	25	0	**97**	90	110				
Manganese	2.48	0.010	2.5	0	**99**	90	110				
Potassium	25.9	1.0	25	0	**104**	90	110				
Sodium	26.1	1.0	25	0	**105**	90	110				
Zinc	2.46	0.010	2.5	0	**98**	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 58** SampType: **Sample Matrix Spike** Lab ID: **H18100230-011BMS2** Method: **E200.7**

Analysis Date: **10/10/18 16:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.09185	92	70	130				
Calcium	193	1.0	50	138.8	108	70	130				
Copper	1.08	0.012	1	0.0391	104	70	130				
Iron	5.15	0.020	5	0	103	70	130				
Magnesium	75.8	1.0	50	22.09	107	70	130				
Manganese	11.8	0.0016	5	6.504	105	70	130				
Potassium	61.4	1.0	50	8.373	106	70	130				
Sodium	144	1.0	50	92.35	103	70	130				
Zinc	1.89	0.010	1	0.9139	97	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 59** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-011BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 16:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1	0.09185	94	70	130	1.013	1.4	20	
Calcium	195	1.0	50	138.8	112	70	130	192.8	1.1	20	
Copper	1.09	0.012	1	0.0391	105	70	130	1.082	1.0	20	
Iron	5.09	0.020	5	0	102	70	130	5.152	1.1	20	
Magnesium	75.2	1.0	50	22.09	106	70	130	75.8	0.8	20	
Manganese	11.9	0.0016	5	6.504	107	70	130	11.76	0.8	20	
Potassium	61.4	1.0	50	8.373	106	70	130	61.44	0.1	20	
Sodium	147	1.0	50	92.35	109	70	130	144	1.9	20	
Zinc	1.92	0.010	1	0.9139	101	70	130	1.888	1.8	20	

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 75** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 17:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.53	0.10	2.5	0	**101**	90	110				
Calcium	24.9	1.0	25	0	**100**	90	110				
Copper	2.52	0.012	2.5	0	**101**	90	110				
Iron	2.48	0.020	2.5	0	**99**	90	110				
Magnesium	24.4	1.0	25	0	**98**	90	110				
Manganese	2.49	0.010	2.5	0	**100**	90	110				
Potassium	25.5	1.0	25	0	**102**	90	110				
Sodium	25.6	1.0	25	0	**102**	90	110				
Zinc	2.51	0.010	2.5	0	**100**	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 81** SampType: **Sample Matrix Spike** Lab ID: **H18100230-022BMS2** Method: **E200.7**

Analysis Date: **10/10/18 17:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.05913	**96**	70	130				
Calcium	156	1.0	50	99.48	**112**	70	130				
Copper	1.02	0.012	1	0	**102**	70	130				
Iron	5.02	0.020	5	0	**100**	70	130				
Magnesium	80.8	1.0	50	27.45	**107**	70	130				
Manganese	5.11	0.0016	5	0	**102**	70	130				
Potassium	60.5	1.0	50	6.276	**108**	70	130				
Sodium	87.0	1.0	50	31.45	**111**	70	130				
Zinc	0.988	0.010	1	0	**99**	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 82** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-022BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 17:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.050	1	0.05913	94	70	130	1.015	1.3	20	
Calcium	156	1.0	50	99.48	114	70	130	155.5	0.6	20	
Copper	1.03	0.012	1	0	103	70	130	1.022	1.0	20	
Iron	5.05	0.020	5	0	101	70	130	5.024	0.4	20	
Magnesium	81.2	1.0	50	27.45	107	70	130	80.84	0.4	20	
Manganese	5.12	0.0016	5	0	102	70	130	5.106	0.2	20	
Potassium	60.4	1.0	50	6.276	108	70	130	60.5	0.2	20	
Sodium	86.8	1.0	50	31.45	111	70	130	87	0.2	20	
Zinc	0.981	0.010	1	0	98	70	130	0.9877	0.7	20	

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 18:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.51	0.10	2.5	0	100	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Copper	2.49	0.012	2.5	0	100	90	110				
Iron	2.50	0.020	2.5	0	100	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Manganese	2.51	0.010	2.5	0	101	90	110				
Potassium	25.3	1.0	25	0	101	90	110				
Sodium	25.2	1.0	25	0	101	90	110				
Zinc	2.54	0.010	2.5	0	102	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 96** SampType: **Sample Matrix Spike** Lab ID: **H18100230-032BMS2** Method: **E200.7**

Analysis Date: **10/10/18 18:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.946	0.050	1	0	95	70	130				
Calcium	105	1.0	50	53.76	102	70	130				
Copper	1.02	0.012	1	0	102	70	130				
Iron	5.06	0.020	5	0	101	70	130				
Magnesium	61.5	1.0	50	10.19	103	70	130				
Manganese	5.23	0.0016	5	0.1456	102	70	130				
Potassium	54.4	1.0	50	1.87	105	70	130				
Sodium	64.5	1.0	50	11.71	105	70	130				
Zinc	0.978	0.010	1	0	98	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 97** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-032BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 18:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.951	0.050	1	0	95	70	130	0.9463	0.5	20	
Calcium	108	1.0	50	53.76	108	70	130	104.9	2.7	20	
Copper	1.03	0.012	1	0	103	70	130	1.023	0.7	20	
Iron	5.11	0.020	5	0	102	70	130	5.064	1.0	20	
Magnesium	62.2	1.0	50	10.19	104	70	130	61.47	1.2	20	
Manganese	5.30	0.0016	5	0.1456	103	70	130	5.231	1.3	20	
Potassium	55.5	1.0	50	1.87	107	70	130	54.43	1.9	20	
Sodium	66.0	1.0	50	11.71	109	70	130	64.46	2.4	20	
Zinc	0.984	0.010	1	0	98	70	130	0.9777	0.7	20	

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
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J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 99** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 18:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.58	0.10	2.5	0	103	90	110				
Calcium	25.8	1.0	25	0	103	90	110				
Copper	2.50	0.012	2.5	0	100	90	110				
Iron	2.53	0.020	2.5	0	101	90	110				
Magnesium	25.4	1.0	25	0	102	90	110				
Manganese	2.53	0.010	2.5	0	101	90	110				
Potassium	25.1	1.0	25	0	101	90	110				
Sodium	25.0	1.0	25	0	100	90	110				
Zinc	2.60	0.010	2.5	0	104	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 108** SampType: **Sample Matrix Spike** Lab ID: **H18100230-039BMS2** Method: **E200.7**

Analysis Date: **10/10/18 19:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.980	0.050	1	0	98	70	130				
Calcium	50.9	1.0	50	0	102	70	130				
Copper	1.00	0.012	1	0	100	70	130				
Iron	5.07	0.020	5	0	101	70	130				
Magnesium	51.4	1.0	50	0	103	70	130				
Manganese	5.12	0.0016	5	0	102	70	130				
Potassium	51.7	1.0	50	0	103	70	130				
Sodium	51.7	1.0	50	0.1805	103	70	130				
Zinc	1.02	0.010	1	0	102	70	130				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138906

Run ID :Run Order: **ICP2-HE_181010A: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-039BMSD2** Method: **E200.7**

Analysis Date: **10/10/18 19:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.942	0.050	1	0	**94**	70	130	0.9802	**4.0**	20	
Calcium	50.6	1.0	50	0	**101**	70	130	50.93	**0.7**	20	
Copper	1.01	0.012	1	0	**101**	70	130	1.003	**0.3**	20	
Iron	5.07	0.020	5	0	**101**	70	130	5.071	**0.0**	20	
Magnesium	51.0	1.0	50	0	**102**	70	130	51.43	**0.8**	20	
Manganese	5.09	0.0016	5	0	**102**	70	130	5.117	**0.5**	20	
Potassium	52.3	1.0	50	0	**105**	70	130	51.7	**1.2**	20	
Sodium	52.6	1.0	50	0.1805	**105**	70	130	51.68	**1.7**	20	
Zinc	0.983	0.010	1	0	**98**	70	130	1.015	**3.2**	20	

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **ICP2-HE_181010A: 111** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/10/18 19:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	**101**	90	110				
Calcium	25.6	1.0	25	0	**102**	90	110				
Copper	2.50	0.012	2.5	0	**100**	90	110				
Iron	2.51	0.020	2.5	0	**100**	90	110				
Magnesium	25.0	1.0	25	0	**100**	90	110				
Manganese	2.53	0.010	2.5	0	**101**	90	110				
Potassium	25.1	1.0	25	0	**100**	90	110				
Sodium	25.0	1.0	25	0	**100**	90	110				
Zinc	2.56	0.010	2.5	0	**102**	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138953

Run ID :Run Order: **PHSC_101-H_181012A: 31** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **10/12/18 09:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18100230-029A**

Run ID :Run Order: **PHSC_101-H_181012A: 32** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **10/12/18 09:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	**100**	90	110				

Associated samples: **H18100230-029A**

Run ID :Run Order: **PHSC_101-H_181012A: 35** SampType: **Sample Duplicate** Lab ID: **H18100335-022ADUP** Method: **A2320 B**

Analysis Date: **10/12/18 10:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	130	4.0		0				129.9	**0.3**	10	
Bicarbonate as HCO3	160	4.0		0				157.9	**0.3**	10	

Associated samples: **H18100230-029A**

Run ID :Run Order: **PHSC_101-H_181012A: 57** SampType: **Sample Duplicate** Lab ID: **H18100343-006ADUP** Method: **A2320 B**

Analysis Date: **10/12/18 12:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	79	4.0		0				78.4	**0.6**	10	
Bicarbonate as HCO3	96	4.0		0				95.04	**0.6**	10	

Associated samples: **H18100230-029A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138957

Run ID :Run Order: **ICPMS205-H_181011B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **10/11/18 15:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0601	0.010	0.06	0	100	90	110				
Lead	0.0607	0.010	0.06	0	101	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Zinc	0.0609	0.010	0.06	0	102	90	110				

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **10/11/18 15:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000237	0.010		0							
Lead	6.01E-05	0.010		0							
Manganese	0.000214	0.010		0							
Zinc	0.000351	0.010		0							

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **10/11/18 15:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0195	0.010	0.02	0	98	70	130				
Lead	5.07E-05	0.010		0		0	0				
Manganese	0.0199	0.010	0.02	0	100	70	130				
Zinc	0.00976	0.010	0.01	0	98	70	130				

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **10/11/18 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0001									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Zinc	ND	0.0003									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138957

Run ID :Run Order: **ICPMS205-H_181011B: 17** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**
Analysis Date: **10/11/18 16:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 18** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**
Analysis Date: **10/11/18 16:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0497	0.010	0.05	0	99	85	115				
Lead	0.0490	0.010	0.05	0	98	85	115				
Manganese	0.0487	0.010	0.05	0	97	85	115				
Zinc	0.0501	0.010	0.05	0	100	85	115				

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 85** SampType: **Method Blank** Lab ID: **MB-43390** Method: **E200.8**
Analysis Date: **10/11/18 18:17** Units: **mg/L** **Prep Info:** Prep Date: **10/9/2018** Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0005	0.0001									
Lead	5E-05	3E-05									
Manganese	ND	0.0003									
Zinc	0.001	0.0003									

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 93** SampType: **Sample Matrix Spike** Lab ID: **H18100229-002BMS** Method: **E200.8**
Analysis Date: **10/11/18 18:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.479	0.0050	0.5	0.01213	93	70	130				
Lead	0.486	0.0010	0.5	0	97	70	130				
Manganese	0.479	0.0029	0.5	0	96	70	130				
Zinc	0.483	0.010	0.5	0.01621	93	70	130				

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138957

Run ID :Run Order: **ICPMS205-H_181011B: 94** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100229-002BMSD** Method: **E200.8**

Analysis Date: **10/11/18 18:34** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.483	0.0050	0.5	0.01213	94	70	130	0.479	0.9	20	
Lead	0.492	0.0010	0.5	0	98	70	130	0.4863	1.2	20	
Manganese	0.488	0.0029	0.5	0	98	70	130	0.4792	1.7	20	
Zinc	0.474	0.010	0.5	0.01621	92	70	130	0.4833	1.9	20	

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 110** SampType: **Sample Matrix Spike** Lab ID: **H18100230-033BMS** Method: **E200.8**

Analysis Date: **10/11/18 19:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0529	0.0050	0.05	0.003504	99	70	130				
Lead	0.0493	0.0010	0.05	0.0003746	98	70	130				
Manganese	0.113	0.0010	0.05	0.05977	107	70	130				
Zinc	0.0519	0.010	0.05	0.001917	100	70	130				

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Run ID :Run Order: **ICPMS205-H_181011B: 111** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-033BMSD** Method: **E200.8**

Analysis Date: **10/11/18 19:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0535	0.0050	0.05	0.003504	100	70	130	0.05292	1.0	20	
Lead	0.0509	0.0010	0.05	0.0003746	101	70	130	0.0493	3.2	20	
Manganese	0.114	0.0010	0.05	0.05977	108	70	130	0.1132	0.5	20	
Zinc	0.0524	0.010	0.05	0.001917	101	70	130	0.05191	0.9	20	

Associated samples: **H18100230-004B, H18100230-010B, H18100230-012B, H18100230-014B, H18100230-015B, H18100230-018B, H18100230-029B, H18100230-033B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138988

Run ID :Run Order: **ICP2-HE_181012B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **10/12/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.15	0.10	4	0	104	95	105				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **10/12/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.18	0.10	4	0	104	95	105				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **10/12/18 12:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.03	0.10	4	0	101	95	105				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 15** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**
Analysis Date: **10/12/18 12:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	102	95	105				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 18** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**
Analysis Date: **10/12/18 12:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	531	0.10	500	0	106	80	120				

Associated samples: **H18100230-009B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138988

Run ID :Run Order: **ICP2-HE_181012B: 19** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**
Analysis Date: **10/12/18 12:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	523	0.10	500	0	105	80	120				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 22** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**
Analysis Date: **10/12/18 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.007									

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 23** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**
Analysis Date: **10/12/18 13:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.29	0.10	5	0	106	85	115				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **10/12/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	102	90	110				

Associated samples: **H18100230-009B**

Run ID :Run Order: **ICP2-HE_181012B: 32** SampType: **Sample Matrix Spike** Lab ID: **H18100188-002BMS2** Method: **E200.7**
Analysis Date: **10/12/18 14:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.41	0.039	5	0	108	70	130				

Associated samples: **H18100230-009B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R138988

Run ID :Run Order: **ICP2-HE_181012B: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100188-002BMSD2** Method: **E200.7**

Analysis Date: **10/12/18 14:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.50	0.039	5	0	**110**	70	130	5.412	**1.7**	20	

Associated samples: **H18100230-009B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139005

Run ID :Run Order: **ICP2-HE_181015A: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **10/15/18 09:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	38.7	1.0	40	0	97	95	105				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**
Analysis Date: **10/15/18 09:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	39.1	1.0	40	0	98	95	105				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**
Analysis Date: **10/15/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.2	1.0	25	0	101	95	105				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**
Analysis Date: **10/15/18 10:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	468	1.0	500	0	94	80	120				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**
Analysis Date: **10/15/18 10:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	458	1.0	500	0	92	80	120				

Associated samples: **H18100230-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139005

Run ID :Run Order: **ICP2-HE_181015A: 15** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**
Analysis Date: **10/15/18 10:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.07									

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 16** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**
Analysis Date: **10/15/18 10:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	49.3	1.0	50	0	99	85	115				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 20** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**
Analysis Date: **10/15/18 10:54** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.9	1.0	25	0	96	90	110				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 25** SampType: **Sample Matrix Spike** Lab ID: **H18100297-001BMS2** Method: **E200.7**
Analysis Date: **10/15/18 11:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	106	1.0	50	56.89	99	70	130				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 26** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100297-001BMSD2** Method: **E200.7**
Analysis Date: **10/15/18 11:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	103	1.0	50	56.89	92	70	130	106.3	3.0	20	

Associated samples: **H18100230-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139005

Run ID :Run Order: **ICP2-HE_181015A: 32** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **10/15/18 11:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	23.8	1.0	25	0	95	90	110				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 37** SampType: **Sample Matrix Spike** Lab ID: **H18100224-011BMS2** Method: **E200.7**

Analysis Date: **10/15/18 11:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	411	1.0	100	327	84	70	130				

Associated samples: **H18100230-004B**

Run ID :Run Order: **ICP2-HE_181015A: 38** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100224-011BMSD2** Method: **E200.7**

Analysis Date: **10/15/18 12:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	411	1.0	100	327	84	70	130	411.4	0.0	20	

Associated samples: **H18100230-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139059

Run ID :Run Order: **IC METROHM_181015A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **10/15/18 11:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **10/15/18 11:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	402	1.0	400	0	101	90	110				

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **10/15/18 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.6	1.0	25	0	98	90	110				
Sulfate	99.1	1.0	100	0	99	90	110				

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 6** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **10/15/18 12:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.1	1.0	50	0	106	90	110				
Sulfate	207	1.0	200	0	104	90	110				

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 22** SampType: **Sample Matrix Spike** Lab ID: **H18100230-033AMS** Method: **E300.0**
Analysis Date: **10/15/18 16:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	27.7	1.0	25	2.258	102	90	110				
Sulfate	146	1.0	100	47.22	99	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139059

Run ID :Run Order: **IC METROHM_181015A: 22** SampType: **Sample Matrix Spike** Lab ID: **H18100230-033AMS** Method: **E300.0**
Analysis Date: **10/15/18 16:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 23** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100230-033AMSD** Method: **E300.0**
Analysis Date: **10/15/18 16:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	27.8	1.0	25	2.258	102	90	110	27.65	0.5	20	
Sulfate	147	1.0	100	47.22	99	90	110	145.7	0.7	20	

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 24** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **10/15/18 16:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.5	1.0	50	0	107	90	110				
Sulfate	210	1.0	200	0	105	90	110				

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 28** SampType: **Sample Matrix Spike** Lab ID: **H18100292-001AMS** Method: **E300.0**
Analysis Date: **10/15/18 17:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.7	1.0	25	0.388	101	90	110				
Sulfate	105	1.0	100	4.78	100	90	110				

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Run ID :Run Order: **IC METROHM_181015A: 29** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18100292-001AMSD** Method: **E300.0**
Analysis Date: **10/15/18 18:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.4	1.0	25	0.388	100	90	110	25.71	1.1	20	
Sulfate	105	1.0	100	4.78	100	90	110	105.1	0.0	20	

Associated samples: **H18100230-009A, H18100230-015A, H18100230-016A, H18100230-028A, H18100230-029A, H18100230-030A, H18100230-031A, H18100230-033A, H18100230-038A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139166

Run ID :Run Order: **HGCV202-H_181018A: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **10/18/18 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.98E-05	0.00010	0.0001	0	100	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 10** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **10/18/18 12:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	95	105				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 86** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **10/18/18 17:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	9.79E-05	0.00010	0.0001	0	98	90	110				

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Run ID :Run Order: **HGCV202-H_181018A: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **10/18/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.000103	0.00010	0.0001	0	103	95	105				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18100230
Project: SSTOU Groundwater

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *24-Oct-18*

BatchID: R139166

Run ID :Run Order: **HGCV202-H_181018A: 87** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV1** Method: **E245.1**

Analysis Date: **10/18/18 17:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18100230-001B, H18100230-002B, H18100230-003B, H18100230-004B, H18100230-005B, H18100230-006B, H18100230-007B, H18100230-008B, H18100230-009B, H18100230-010B, H18100230-011B, H18100230-012B, H18100230-013B, H18100230-014B, H18100230-015B, H18100230-016B, H18100230-017B, H18100230-018B, H18100230-019B, H18100230-020B, H18100230-021B, H18100230-022B, H18100230-023B, H18100230-024B, H18100230-025B, H18100230-026B, H18100230-027B, H18100230-028B, H18100230-029B, H18100230-030B, H18100230-031B, H18100230-032B, H18100230-033B, H18100230-034B, H18100230-035B, H18100230-036B, H18100230-037B, H18100230-038B, H18100230-039B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18100230

Login completed by: Jessica C. Smith
Date Received: 10/5/2018

Reviewed by: BL2000\rtooke
Received by: RAT

Reviewed Date: 10/9/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.4°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Samples for Dissolved Metals/Hardness were subsampled, filtered, and preserved to pH <2 with 2 mL of Nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection. JCS 10/08/18

Chain of Custody & Analytical Request Record

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Account Information (Billing information)

Company/Name	Montana DEQ
Contact	Ben Quinones
Phone	(406) 461-7128
Mailing Address	P.O. Box 200901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ▣Email
Receive Report	☐Hard Copy ▣Email
Purchase Order	
Quote	
Bottle Order	

Report Information (if different than Account Information)

Company/Name	RESPEC
Contact	Joe Naughton
Phone	(406) 214-4478
Mailing Address	815 East Front Street, Suite 3
City, State, Zip	Missoula, MT 59802
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ▣Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ▣ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Please filter all samples in the laboratory to 0.45 um (all samples are submitted raw).

Project Information

Project Name, PWSID, Permit, etc.	SSTOU Groundwater
Sampler Name	B. Merritt, T. Traxler
Sampler Phone	(406) 240-0573
Sample Origin State	Montana
EPA/State Compliance	▣ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Dissolved As, Cd, Cu, Pb, Hg, Zn	Dissolved Al, Sb, Ba, Be, B, Cr, Co, Fe	Dissolved Mn, Mb, ni, Se, Ag, U, V	Alkalinity/Bicarbonate	Hardness	Ca, Mg, Cl, K, Na, SO4	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1 GW-1010R	10/2/18	1710	1	W	✓	✓	✓	✓	✓	✓			1810023O
2 GW-WG-SS	10/2/18	1605	1	W	✓	✓	✓	✓	✓	✓			
3 GW-WG-NS	10/2/18	1627	1	W	✓	✓	✓	✓	✓	✓			
4 GW-RK-BG	10/3/18	1017	1	W	✓	✓	✓	✓	✓	✓			
5 MW-10	10/3/18	0930	1	W	✓	✓	✓	✓	✓	✓			
6 MW-01	10/3/18	0835	1	W	✓	✓	✓	✓	✓	✓			
7 GW-1003R	10/3/18	1117	1	W	✓	✓	✓	✓	✓	✓			
8 1GW-1004A	10/3/18	1200	1	W	✓	✓	✓	✓	✓	✓			
9 P-58A	10/3/18	1210	1	W	✓	✓	✓	✓	✓	✓			
10													

Custody Record MUST be signed							
Relinquished by (print)	Tanner Traxler	Date/Time	10/5/18 1145	Signature		Received by (print)	Date/Time	Signature
Relinquished by (print)		Date/Time		Signature		Received by Laboratory (print)	Date/Time 10/5/18 1144	Signature

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	138	Y (N) C B	Y N	1.4 °C	(Y) N	(Y) N	CC Cash Check_____	$	

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	Montana DEQ
Contact	Ben Quinones
Phone	(406) 461-7128
Mailing Address	P.O. Box 200901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ■Email
Receive Report	☐Hard Copy ■Email
Purchase Order	
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	RESPEC
Contact	Joe Naughton
Phone	(406) 214-4478
Mailing Address	815 East Front Street, Suite 3
City, State, Zip	Missoula, MT 59802
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ■Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ■ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Please filter all samples in the laboratory to 0.45 um (all samples are submitted raw).

Project Information

Project Name, PWSID, Permit, etc.	SSTOU Groundwater
Sampler Name	B. Merritt, T. Traxler
Sampler Phone	(406) 240-0573
Sample Origin State	Montana
EPA/State Compliance	■ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Dissolved As, Cd, Cu, Pb, Hg, Zn	Dissolved Al, Sb, Ba, Be, B, Cr, Co, Fe	Dissolved Mn, Mb, ni, Se, Ag, U, V	Alkalinity/Bicarbonate	Hardness	Ca, Mg, Cl, K, Na, SO4				See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	P-39R	10/3/18	1400	1	W	✓	✓	✓	✓	✓	✓						H18100230
2	P-37A	10/3/18	1320	1	W	✓	✓	✓	✓	✓	✓						
3	P-114	10/3/18	1337	1	W	✓	✓	✓	✓	✓	✓						
4	GW-CR-BG	10/4/18	0935	1	W	✓	✓	✓	✓	✓	✓						
5	GW-CR-WS	10/4/18	1025	1	W	✓	✓	✓	✓	✓	✓						
6	GW-CR-ES	10/4/18	1030	1	W	✓	✓	✓	✓	✓	✓						
7	GW-MC-NS	10/3/18	1500	1	W	✓	✓	✓	✓	✓	✓						
8	GW-MC-SS	10/3/18	1510	1	W	✓	✓	✓	✓	✓	✓						
9	GW-MC-BG	10/3/18	1617	1	W	✓	✓	✓	✓	✓	✓						
10																	

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	10/5/18 1145				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Toole	10/5/18 1144	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
hand	138	Y (N) C B	Y N	1.4 °C	(Y) N	(Y) N	CC Cash Check_____	$	

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Chain of Custody & Analytical Request Record

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Account Information *(Billing information)*

Company/Name	Montana DEQ
Contact	Ben Quinones
Phone	(406) 461-7128
Mailing Address	P.O. Box 200901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	RESPEC
Contact	Joe Naughton
Phone	(406) 214-4478
Mailing Address	815 East Front Street, Suite 3
City, State, Zip	Missoula, MT 59802
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☒ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Please filter all samples in the laboratory to 0.45 um (all samples are submitted raw).

Project Information

Project Name, PWSID, Permit, etc.	SSTOU Groundwater
Sampler Name	B. Merritt, T. Traxler
Sampler Phone	(406) 240-0573
Sample Origin State	Montana
EPA/State Compliance	☒ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Analysis Requested: Dissolved As, Cd, Cu, Pb, Hg, Zn	Dissolved Al, Sb, Ba, Be, B, Cr, Co, Fe	Dissolved Mn, Mb, ni, Se, Ag, U, V	Alkalinity/Bicarbonate	Hardness	Ca, Mg, Cl, K, Na, SO4	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1 1GW-1056	10/2/18	1200	1	W	✓	✓	✓	✓	✓	✓			H18100230
2 LYP-07	10/2/18	1105	1	W	✓	✓	✓	✓	✓	✓			
3 MW-2A	10/2/18	1300	1	W	✓	✓	✓	✓	✓	✓			
4 MW-2B	10/2/18	1340	1	W	✓	✓	✓	✓	✓	✓			
5 MW-2C	10/2/18	1350	1	W	✓	✓	✓	✓	✓	✓			
6 MW-2D	10/2/18	1500	1	W	✓	✓	✓	✓	✓	✓			
7 GW-FM-ES	10/4/18	0900	1	W	✓	✓	✓	✓	✓	✓			
8 GW-FM-WS	10/4/18	0840	1	W	✓	✓	✓	✓	✓	✓			
9 GW-FM-BG	10/4/18	1000	1	W	✓	✓	✓	✓	✓	✓			
10													

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	10/5/18 1145				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Towle	10/5/18 1144	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	138	Y (N) C B	Y N	1.4 °C	(Y) N	(Y) N	CC Cash Check_____	$	

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ENERGY LABORATORIES
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Chain of Custody & Analytical Request Record

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Account Information (Billing information)

Company/Name	Montana DEQ
Contact	Ben Quinones
Phone	(406) 461-7128
Mailing Address	P.O. Box 200901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	
Bottle Order	

Report Information (if different than Account Information)

Company/Name	RESPEC
Contact	Joe Naughton
Phone	(406) 214-4478
Mailing Address	815 East Front Street, Suite 3
City, State, Zip	Missoula, MT 59802
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email
Special Report/Formats:	☐ LEVEL IV ☐ NELAC ☒ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Please filter all samples in the laboratory to 0.45 um (all samples are submitted raw).

Project Information

Project Name, PWSID, Permit, etc.	SSTOU Groundwater
Sampler Name	B. Merritt, T. Traxler
Sampler Phone	(406) 240-0573
Sample Origin State	Montana
EPA/State Compliance	☒ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Dissolved As, Cd, Cu, Pb, Hg, Zn	Dissolved Al, Sb, Ba, Be, B, Cr, Co, Fe	Dissolved Mn, Mb, ni, Se, Ag, U, V	Alkalinity/Bicarbonate	Hardness	Ca, Mg, Cl, K, Na, SO4				See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1 GW-ST-ES	10/4/18	1240	1	W	✓	✓	✓	✓	✓	✓						H18100230
2 GW-ST-WS	10/4/18	1200	1	W	✓	✓	✓	✓	✓	✓						
3 GW-ST-BG	10/4/18	1135	1	W	✓	✓	✓	✓	✓	✓						
4 GW-FR-ES	10/4/18	1345	1	W	✓	✓	✓	✓	✓	✓						
5 GW-FR-WS	10/4/18	1400	1	W	✓	✓	✓	✓	✓	✓						
6 GW-FR-BG	10/4/18	1345	1	W	✓	✓	✓	✓	✓	✓						
7			1	W	✓	✓	✓	✓	✓	✓						
8			1	W	✓	✓	✓	✓	✓	✓						
9																
10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tamara Traxler	10/5/18 1145				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Tooke	10/5/18 1149	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Fed Ex	138	Y N C B	Y N	1.4 °C	Y N	Y N	CC Cash Check_____	$	

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Account Information *(Billing information)*

Company/Name	Montana DEQ
Contact	Ben Quinones
Phone	(406) 461-7128
Mailing Address	P.O. Box 200901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ■Email
Receive Report	☐Hard Copy ■Email
Purchase Order	
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	RESPEC
Contact	Joe Naughton
Phone	(406) 214-4478
Mailing Address	815 East Front Street, Suite 3
City, State, Zip	Missoula, MT 59802
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ■Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ■ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Please filter all samples in the laboratory to 0.45 um (all samples are submitted raw).

Project Information

Project Name, PWSID, Permit, etc.	SSTOU Groundwater
Sampler Name	B. Merritt, T. Traxler
Sampler Phone	(406) 240-0573
Sample Origin State	Montana
EPA/State Compliance	■ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Dissolved As, Cd, Cu, Pb, Hg, Zn	Dissolved Al, Sb, Ba, Be, B, Cr, Co, Fe	Dissolved Mn, Mb, ni, Se, Ag, U, V	Alkalinity/Bicarbonate	Hardness	Ca, Mg, Cl, K, Na, SO4				See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1 MW-2A-DUP	10/2/18	1301	1	W	✓	✓	✓	✓	✓	✓						H18100230
2 EB1	10/2/18	1235	1	W	✓	✓	✓	✓	✓	✓						
3 GW-RK-BG-DUP	10/3/18	1020	1	W	✓	✓	✓	✓	✓	✓						
4 EB2	10/3/18	1400	1	W	✓	✓	✓	✓	✓	✓						
5 GW-FR-BG-DUP	10/4/18	1347	1	W	✓	✓	✓	✓	✓	✓						
6 EB3	10/4/18	1330	1	W	✓	✓	✓	✓	✓	✓						
7			1	W	✓	✓	✓	✓	✓	✓						
8			1	W	✓	✓	✓	✓	✓	✓						
9																
10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	10/5/18 1115				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Locke	10/5/18 1144	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
hand	138	Y N C B	Y N	1.4 °C	Y N	Y N	CC Cash Check_____	$	

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APPENDIX B-4

Fourth Quarter Results

ANALYTICAL SUMMARY REPORT

December 19, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18110573 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 15 samples for MT DEQ-Federal Superfund on 11/30/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18110573-001	SS-01	11/29/18 17:00	11/30/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Suspended
H18110573-002	SS-01 Duplicate	11/29/18 17:00	11/30/18	Surface Water	Same As Above
H18110573-003	SS-05A	11/29/18 15:30	11/30/18	Surface Water	Same As Above
H18110573-004	SS-15G	11/29/18 14:00	11/30/18	Surface Water	Same As Above
H18110573-005	SS-04 Sieve <0.063mm	11/29/18 16:30	11/30/18	Sediment	Metals by ICP/ICPMS, Total Percent Moisture Total Metals Digestion by SW3050B Sieve Analysis, Wet Soil Preparation USDA1
H18110573-006	SLAG-01 Sieve <0.063mm	11/29/18 16:15	11/30/18	Sediment	Same As Above
H18110573-007	SS-01 Sieve <0.063mm	11/29/18 17:00	11/30/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet
H18110573-008	SS-01 Sieve 1mm-0.063mm	11/29/18 17:00	11/30/18	Sediment	Same As Above
H18110573-009	SS-01 Sieve 2mm-1mm	11/29/18 17:00	11/30/18	Sediment	Same As Above
H18110573-010	SS-05A Sieve <0.063mm	11/29/18 15:30	11/30/18	Sediment	Same As Above
H18110573-011	SS-05A Sieve 1mm-0.063mm	11/29/18 15:30	11/30/18	Sediment	Same As Above
H18110573-012	SS-05A Sieve 2mm-1mm	11/29/18 15:30	11/30/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18110573-013	SS-15G <0.063mm	11/29/18 14:00	11/30/18	Sediment	Same As Above
H18110573-014	SS-15G 1mm-0.063mm	11/29/18 14:00	11/30/18	Sediment	Same As Above
H18110573-015	SS-15G 2mm-1mm	11/29/18 14:00	11/30/18	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-001
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	5	mg/L		1	0.3	A2540 D	11/30/18 14:24 / cm			-124 (14410200)_181130B	7	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	88	mg/L		4	2	A2320 B	11/30/18 12:34 / SR			PHSC_101-H_181130A	51	R140268
Bicarbonate as HCO3	110	mg/L		4	2	A2320 B	11/30/18 12:34 / SR			PHSC_101-H_181130A	51	R140268
Chloride	14	mg/L		1	0.009	E300.0	11/30/18 18:28 / SR			IC METROHM_181130A	26	R140315
Sulfate	29	mg/L		1	0.01	E300.0	11/30/18 18:28 / SR			IC METROHM_181130A	26	R140315
Hardness as CaCO3	114	mg/L		1	1	A2340 B	12/05/18 07:51 / sld			WATERCALC_181205A	1	R140379
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 14:43 / km			FIA203-HE_181206D	28	R140449
Nitrogen, Nitrate+Nitrite as N	0.76	mg/L		0.02	0.009	E353.2	12/07/18 11:19 / km			FIA203-HE_181207B	19	R140480
Nitrogen, Total	1.03	mg/L		0.05	0.03	A4500 N-C	12/04/18 11:36 / km	12/03/18 14:34	A4500 N-	FIA203-HE_181204A	95	43988
Phosphorus, Total as P	0.085	mg/L		0.003	0.002	E365.1	12/04/18 09:42 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	28	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Antimony	0.00015	mg/L	J	0.0005	0.00009	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Barium	0.046	mg/L		0.003	0.00002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Boron	0.015	mg/L	J	0.1	0.006	E200.7	12/03/18 13:20 / sld			ICP2-HE_181203B	29	R140342
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Calcium	29	mg/L		1	0.07	E200.7	12/03/18 13:20 / sld			ICP2-HE_181203B	29	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Cobalt	ND	mg/L		0.01	0.00009	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Copper	0.001	mg/L		0.001	0.0001	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Iron	0.19	mg/L		0.02	0.002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Lead	0.00007	mg/L	J	0.0003	0.00003	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Magnesium	7	mg/L		1	0.1	E200.7	12/03/18 13:20 / sld			ICP2-HE_181203B	29	R140342
Manganese	0.056	mg/L		0.001	0.0003	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Mercury	0.0034	ug/L	J	0.005	0.0009	E245.1	12/05/18 10:47 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	13	43991
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Potassium	3	mg/L		1	0.06	E200.7	12/03/18 13:20 / sld			ICP2-HE_181203B	29	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-001
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00013	mg/L	J	0.001	0.00002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Sodium	11	mg/L		1	0.02	E200.7	12/03/18 13:20 / sld			ICP2-HE_181203B	29	R140342
Uranium	0.0029	mg/L		0.0002	0.00001	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
Zinc	0.0062	mg/L	J	0.008	0.0003	E200.8	12/04/18 16:38 / sld			ICPMS205-H_181204A	175	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.118	mg/L		0.009	0.003	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Barium	0.048	mg/L		0.003	0.00009	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Boron	0.018	mg/L	J	0.1	0.005	E200.7	12/04/18 14:30 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	38	43972
Cadmium	0.00003	mg/L		0.00003	0.00003	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Calcium	32	mg/L		1	0.09	E200.7	12/04/18 14:30 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	38	43972
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Cobalt	0.00015	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Copper	0.003	mg/L		0.001	0.0002	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Iron	0.63	mg/L		0.02	0.004	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Lead	0.0006	mg/L		0.0003	0.00004	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Magnesium	8	mg/L		1	0.2	E200.7	12/04/18 14:30 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	38	43972
Manganese	0.070	mg/L		0.001	0.0003	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Mercury	0.0049	ug/L	J	0.005	0.0009	E245.1	12/06/18 12:32 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	12	43991
Molybdenum	0.0045	mg/L	J	0.005	0.00002	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Nickel	0.0005	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Potassium	3	mg/L		1	0.06	E200.7	12/04/18 14:30 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	38	43972
Selenium	0.00014	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Silver	0.000029	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Sodium	12	mg/L		1	0.03	E200.7	12/04/18 14:30 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	38	43972
Uranium	0.0031	mg/L		0.0002	9E-06	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Vanadium	0.0026	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972
Zinc	0.006	mg/L	J	0.008	0.001	E200.8	12/04/18 13:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	80	43972

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-002
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	5	mg/L		1	0.3	A2540 D	11/30/18 14:24 / cm			-124 (14410200)_181130B	8	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	89	mg/L		4	2	A2320 B	11/30/18 12:39 / SR			PHSC_101-H_181130A	53	R140268
Bicarbonate as HCO3	110	mg/L		4	2	A2320 B	11/30/18 12:39 / SR			PHSC_101-H_181130A	53	R140268
Chloride	14	mg/L		1	0.009	E300.0	11/30/18 18:42 / SR			IC METROHM_181130A	27	R140315
Sulfate	29	mg/L		1	0.01	E300.0	11/30/18 18:42 / SR			IC METROHM_181130A	27	R140315
Hardness as CaCO3	114	mg/L		1	1	A2340 B	12/05/18 07:51 / sld			WATERCALC_181205A	2	R140379
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 14:44 / km			FIA203-HE_181206D	29	R140449
Nitrogen, Nitrate+Nitrite as N	0.76	mg/L		0.02	0.009	E353.2	12/07/18 11:20 / km			FIA203-HE_181207B	20	R140480
Nitrogen, Total	1.02	mg/L		0.05	0.03	A4500 N-C	12/04/18 11:38 / km	12/03/18 14:34	A4500 N-	FIA203-HE_181204A	96	43988
Phosphorus, Total as P	0.083	mg/L		0.003	0.002	E365.1	12/04/18 09:45 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	30	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Antimony	0.00014	mg/L	J	0.0005	0.00009	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Barium	0.047	mg/L		0.003	0.00002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Boron	0.017	mg/L	J	0.1	0.006	E200.7	12/03/18 13:24 / sld			ICP2-HE_181203B	30	R140342
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Calcium	29	mg/L		1	0.07	E200.7	12/03/18 13:24 / sld			ICP2-HE_181203B	30	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Cobalt	ND	mg/L		0.01	0.00009	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Copper	0.001	mg/L		0.001	0.0001	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Iron	0.18	mg/L		0.02	0.002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Lead	0.00007	mg/L	J	0.0003	0.00003	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Magnesium	7	mg/L		1	0.1	E200.7	12/03/18 13:24 / sld			ICP2-HE_181203B	30	R140342
Manganese	0.056	mg/L		0.001	0.0003	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Mercury	0.0039	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:00 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	17	43991
Molybdenum	0.0042	mg/L	J	0.005	0.00002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Potassium	3	mg/L		1	0.06	E200.7	12/03/18 13:24 / sld			ICP2-HE_181203B	30	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-002
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00012	mg/L	J	0.001	0.00002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Sodium	12	mg/L		1	0.02	E200.7	12/03/18 13:24 / sld			ICP2-HE_181203B	30	R140342
Uranium	0.0029	mg/L		0.0002	0.00001	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
Zinc	0.0058	mg/L	J	0.008	0.0003	E200.8	12/04/18 16:40 / sld			ICPMS205-H_181204A	176	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.115	mg/L		0.009	0.003	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Barium	0.048	mg/L		0.003	0.00009	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Boron	0.021	mg/L	J	0.1	0.005	E200.7	12/04/18 14:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	41	43972
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Calcium	32	mg/L		1	0.09	E200.7	12/04/18 14:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	41	43972
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Cobalt	0.00014	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Copper	0.003	mg/L		0.001	0.0002	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Iron	0.59	mg/L		0.02	0.004	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Lead	0.0005	mg/L		0.0003	0.00004	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Magnesium	8	mg/L		1	0.2	E200.7	12/04/18 14:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	41	43972
Manganese	0.071	mg/L		0.001	0.0003	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Mercury	0.005	ug/L		0.005	0.0009	E245.1	12/06/18 12:35 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	13	43991
Molybdenum	0.0045	mg/L	J	0.005	0.00002	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Nickel	0.0004	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Potassium	3	mg/L		1	0.06	E200.7	12/04/18 14:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	41	43972
Selenium	0.00014	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Silver	0.000013	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Sodium	12	mg/L		1	0.03	E200.7	12/04/18 14:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	41	43972
Uranium	0.0032	mg/L		0.0002	9E-06	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Vanadium	0.0026	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972
Zinc	0.005	mg/L	J	0.008	0.001	E200.8	12/04/18 13:17 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	81	43972

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-003
Collection Date: 11/29/18 15:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	18	mg/L		1	0.3	A2540 D	11/30/18 14:24 / cm			-124 (14410200)_181130B	9	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	2	A2320 B	11/30/18 12:51 / SR			PHSC_101-H_181130A	57	R140268
Bicarbonate as HCO3	120	mg/L		4	2	A2320 B	11/30/18 12:51 / SR			PHSC_101-H_181130A	57	R140268
Chloride	21	mg/L		1	0.009	E300.0	11/30/18 18:56 / SR			IC METROHM_181130A	28	R140315
Sulfate	35	mg/L		1	0.01	E300.0	11/30/18 18:56 / SR			IC METROHM_181130A	28	R140315
Hardness as CaCO3	128	mg/L		1	1	A2340 B	12/05/18 07:51 / sld			WATERCALC_181205A	3	R140379
NUTRIENTS												
Nitrogen, Ammonia as N	0.03	mg/L	J	0.05	0.02	E350.1	12/06/18 14:45 / km			FIA203-HE_181206D	30	R140449
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.02	0.009	E353.2	12/07/18 11:22 / km			FIA203-HE_181207B	22	R140480
Nitrogen, Total	1.38	mg/L		0.05	0.03	A4500 N-C	12/04/18 11:39 / km	12/03/18 14:34	A4500 N-	FIA203-HE_181204A	97	43988
Phosphorus, Total as P	0.137	mg/L		0.003	0.002	E365.1	12/04/18 09:46 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	31	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Antimony	0.00016	mg/L	J	0.0005	0.00009	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Arsenic	0.002	mg/L		0.001	0.00004	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Barium	0.050	mg/L		0.003	0.00002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Boron	0.027	mg/L	J	0.1	0.006	E200.7	12/03/18 13:35 / sld			ICP2-HE_181203B	33	R140342
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Calcium	34	mg/L		1	0.07	E200.7	12/03/18 13:35 / sld			ICP2-HE_181203B	33	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Cobalt	0.00009	mg/L	J	0.01	0.00009	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Copper	0.002	mg/L		0.001	0.0001	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Iron	0.10	mg/L		0.02	0.002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Lead	0.00008	mg/L	J	0.0003	0.00003	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Magnesium	9	mg/L		1	0.1	E200.7	12/03/18 13:35 / sld			ICP2-HE_181203B	33	R140342
Manganese	0.162	mg/L		0.001	0.0003	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Mercury	0.0040	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:06 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	19	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Nickel	0.0003	mg/L	J	0.002	0.0002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Potassium	3	mg/L		1	0.06	E200.7	12/03/18 13:35 / sld			ICP2-HE_181203B	33	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-003
Collection Date: 11/29/18 15:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00013	mg/L	J	0.001	0.00002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Sodium	15	mg/L		1	0.02	E200.7	12/03/18 13:35 / sld			ICP2-HE_181203B	33	R140342
Uranium	0.0039	mg/L		0.0002	0.00001	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Vanadium	0.0020	mg/L	J	0.1	0.00007	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
Zinc	0.027	mg/L		0.008	0.0003	E200.8	12/04/18 16:42 / sld			ICPMS205-H_181204A	177	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.361	mg/L		0.009	0.003	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Barium	0.057	mg/L		0.003	0.00009	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Boron	0.026	mg/L	J	0.1	0.005	E200.7	12/04/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	46	43972
Cadmium	0.00014	mg/L		0.00003	0.00003	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Calcium	36	mg/L		1	0.09	E200.7	12/04/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	46	43972
Chromium	0.0010	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Cobalt	0.00028	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Copper	0.015	mg/L		0.001	0.0002	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Iron	1.18	mg/L		0.02	0.004	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Lead	0.0044	mg/L		0.0003	0.00004	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Magnesium	9	mg/L		1	0.2	E200.7	12/04/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	46	43972
Manganese	0.202	mg/L		0.001	0.0003	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Mercury	0.010	ug/L		0.005	0.0009	E245.1	12/06/18 12:39 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	14	43991
Molybdenum	0.006	mg/L		0.005	0.00002	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Potassium	3	mg/L		1	0.06	E200.7	12/04/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	46	43972
Selenium	0.00018	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Silver	0.000065	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Sodium	16	mg/L		1	0.03	E200.7	12/04/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	46	43972
Uranium	0.0042	mg/L		0.0002	9E-06	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Vanadium	0.0039	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972
Zinc	0.055	mg/L		0.008	0.001	E200.8	12/04/18 13:19 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	82	43972

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-004
Collection Date: 11/29/18 14:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	11/30/18 14:25 / cm			l24 (14410200)_181130B	10	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	2	A2320 B	11/30/18 12:56 / SR			PHSC_101-H_181130A	59	R140268
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	11/30/18 12:56 / SR			PHSC_101-H_181130A	59	R140268
Chloride	0.94	mg/L	J	1	0.009	E300.0	11/30/18 19:10 / SR			IC METROHM_181130A	29	R140315
Sulfate	25	mg/L		1	0.01	E300.0	11/30/18 19:10 / SR			IC METROHM_181130A	29	R140315
Hardness as CaCO3	119	mg/L		1	1	A2340 B	12/05/18 07:51 / sld			WATERCALC_181205A	4	R140379
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 14:46 / km			FIA203-HE_181206D	31	R140449
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.02	0.009	E353.2	12/07/18 11:24 / km			FIA203-HE_181207B	23	R140480
Nitrogen, Total	0.08	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:06 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	26	44016
Phosphorus, Total as P	0.032	mg/L		0.003	0.002	E365.1	12/04/18 09:47 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	32	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Antimony	0.00009	mg/L	J	0.0005	0.00009	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Barium	0.024	mg/L		0.003	0.00002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Boron	ND	mg/L		0.1	0.006	E200.7	12/03/18 13:39 / sld			ICP2-HE_181203B	34	R140342
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Calcium	34	mg/L		1	0.07	E200.7	12/03/18 13:39 / sld			ICP2-HE_181203B	34	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Cobalt	0.0011	mg/L	J	0.01	0.00009	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Copper	0.0005	mg/L	J	0.001	0.0001	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Iron	0.006	mg/L	J	0.02	0.002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Lead	ND	mg/L		0.0003	0.00003	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Magnesium	7	mg/L		1	0.1	E200.7	12/03/18 13:39 / sld			ICP2-HE_181203B	34	R140342
Manganese	0.0009	mg/L	J	0.001	0.0003	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Mercury	0.0038	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:13 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	21	43991
Molybdenum	0.00033	mg/L	J	0.005	0.00002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Nickel	ND	mg/L		0.002	0.0002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Potassium	2	mg/L		1	0.06	E200.7	12/03/18 13:39 / sld			ICP2-HE_181203B	34	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110573-004
Collection Date: 11/29/18 14:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00050	mg/L	J	0.001	0.00002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Sodium	5	mg/L		1	0.02	E200.7	12/03/18 13:39 / sld			ICP2-HE_181203B	34	R140342
Uranium	0.0009	mg/L		0.0002	0.00001	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Vanadium	0.0010	mg/L	J	0.1	0.00007	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
Zinc	0.0044	mg/L	J	0.008	0.0003	E200.8	12/04/18 16:44 / sld			ICPMS205-H_181204A	178	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.041	mg/L		0.009	0.003	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Antimony	ND	mg/L		0.0005	0.0001	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Barium	0.023	mg/L		0.003	0.00009	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Boron	ND	mg/L		0.1	0.005	E200.7	12/04/18 15:04 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	47	43972
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Calcium	36	mg/L		1	0.09	E200.7	12/04/18 15:04 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	47	43972
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Cobalt	0.0012	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Copper	0.001	mg/L		0.001	0.0002	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Iron	0.04	mg/L		0.02	0.004	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Lead	0.00007	mg/L	J	0.0003	0.00004	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Magnesium	7	mg/L		1	0.2	E200.7	12/04/18 15:04 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	47	43972
Manganese	0.003	mg/L		0.001	0.0003	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Mercury	0.0038	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:16 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	22	43991
Molybdenum	0.00032	mg/L	J	0.005	0.00002	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Nickel	0.0002	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Potassium	2	mg/L		1	0.06	E200.7	12/04/18 15:04 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	47	43972
Selenium	0.00051	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Silver	ND	mg/L		0.0002	9E-06	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Sodium	5	mg/L		1	0.03	E200.7	12/04/18 15:04 / sld	12/03/18 08:32	E200.2	ICP2-HE_181204B	47	43972
Uranium	0.0009	mg/L		0.0002	9E-06	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Vanadium	0.0014	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	12/04/18 13:21 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	83	43972

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-04 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-005
Collection Date: 11/29/18 16:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	63.8	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	1	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	7.1	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	1	R140479
3050 EXTRACTABLE METALS												
Arsenic	255	mg/kg-dry		5	0.5	SW6020	12/13/18 12:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	45	44088
Cadmium	9.3	mg/kg-dry		0.3	0.3	SW6020	12/13/18 12:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	45	44088
Copper	1480	mg/kg-dry		8	8	SW6010B	12/12/18 12:28 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	29	44088
Lead	421	mg/kg-dry		5	1	SW6020	12/13/18 12:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	45	44088
Zinc	2290	mg/kg-dry		8	8	SW6010B	12/12/18 12:28 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	29	44088

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SLAG-01 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-006
Collection Date: 11/29/18 16:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	56.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	2	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.7	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	2	R140479
3050 EXTRACTABLE METALS												
Arsenic	213	mg/kg-dry		5	0.4	SW6020	12/13/18 12:23 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	46	44088
Cadmium	23.0	mg/kg-dry		0.2	0.2	SW6020	12/13/18 12:23 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	46	44088
Copper	1470	mg/kg-dry		6	6	SW6010B	12/12/18 12:39 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	32	44088
Lead	726	mg/kg-dry		5	0.8	SW6020	12/13/18 12:23 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	46	44088
Zinc	3180	mg/kg-dry		7	7	SW6010B	12/12/18 12:39 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	32	44088

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-007
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	52.2	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	3	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	3	R140479
3050 EXTRACTABLE METALS												
Aluminum	20500	mg/kg-dry	D	20	20	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Arsenic	48	mg/kg-dry		5	0.4	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Barium	305	mg/kg-dry		5	0.3	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
Beryllium	0.8	mg/kg-dry	J	5	0.6	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Boron	15	mg/kg-dry		5	2	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
Cadmium	1.4	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Chromium	98	mg/kg-dry		5	1	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Cobalt	11	mg/kg-dry		5	2	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Copper	237	mg/kg-dry		6	6	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
Iron	37500	mg/kg-dry	D	100	100	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
Lead	268	mg/kg-dry		5	0.7	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Manganese	2000	mg/kg-dry		5	2	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
Molybdenum	17	mg/kg-dry		5	0.3	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Nickel	47	mg/kg-dry		5	0.8	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Selenium	1.7	mg/kg-dry	J	5	0.7	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Silver	1.7	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Uranium	10	mg/kg-dry		5	0.2	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Vanadium	106	mg/kg-dry		1	0.7	SW6020	12/13/18 13:41 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	86	44088
Zinc	386	mg/kg-dry		6	6	SW6010B	12/13/18 19:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181213B	157	44088
METALS, TOTAL												
Mercury	0.16	mg/kg-dry		0.10	0.0032	SW7471B	12/10/18 11:21 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	42	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-008
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	4	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	44.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	4	R140479
3050 EXTRACTABLE METALS												
Aluminum	3010	mg/kg-dry	D	10	10	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
Antimony	ND	mg/kg-dry		5	1	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Arsenic	4.8	mg/kg-dry	J	5	0.2	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Barium	33	mg/kg-dry		5	0.2	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
Cadmium	0.2	mg/kg-dry	J	0.2	0.1	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Chromium	15	mg/kg-dry		5	0.8	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Cobalt	2	mg/kg-dry	J	5	1	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Copper	27	mg/kg-dry		5	3	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
Iron	18000	mg/kg-dry	D	70	70	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
Lead	18	mg/kg-dry		5	0.5	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Manganese	214	mg/kg-dry		5	1	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
Molybdenum	1.1	mg/kg-dry	J	5	0.2	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Nickel	3.4	mg/kg-dry	J	5	0.5	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Silver	0.3	mg/kg-dry	J	5	0.2	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Uranium	2.3	mg/kg-dry	J	5	0.1	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Vanadium	57	mg/kg-dry		1	0.5	SW6020	12/10/18 16:44 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	81	44029
Zinc	122	mg/kg-dry		5	4	SW6010B	12/10/18 16:43 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	26	44029
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0020	SW7471B	12/10/18 11:23 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	43	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-01 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-009
Collection Date: 11/29/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	16.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	6	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	24.5	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	5	R140479
3050 EXTRACTABLE METALS												
Aluminum	2690	mg/kg-dry	D	10	10	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
Antimony	ND	mg/kg-dry		5	1	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Arsenic	4.3	mg/kg-dry	J	5	0.2	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Barium	35	mg/kg-dry		5	0.2	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Boron	ND	mg/kg-dry		5	1	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
Cadmium	0.2	mg/kg-dry	J	0.2	0.1	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Chromium	4.9	mg/kg-dry	J	5	0.7	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Cobalt	1	mg/kg-dry	J	5	1	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Copper	21	mg/kg-dry		5	3	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
Iron	5390	mg/kg-dry	D	60	60	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
Lead	7	mg/kg-dry		5	0.4	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Manganese	229	mg/kg-dry		5	1	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Nickel	2.0	mg/kg-dry	J	5	0.4	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Silver	0.2	mg/kg-dry	J	5	0.2	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Vanadium	14	mg/kg-dry		1	0.4	SW6020	12/10/18 16:48 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	83	44029
Zinc	59	mg/kg-dry		5	4	SW6010B	12/10/18 17:09 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	33	44029
METALS, TOTAL												
Mercury	0.002	mg/kg-dry	J	0.10	0.0022	SW7471B	12/10/18 11:31 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	47	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-010
Collection Date: 11/29/18 15:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	53.7	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	7	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	9.3	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	6	R140479
3050 EXTRACTABLE METALS												
Aluminum	23300	mg/kg-dry	D	20	20	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
Antimony	2	mg/kg-dry	J	5	2	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Arsenic	317	mg/kg-dry		5	0.4	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Barium	326	mg/kg-dry		5	0.3	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
Beryllium	0.8	mg/kg-dry	J	5	0.7	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Boron	11	mg/kg-dry		5	2	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
Cadmium	21.0	mg/kg-dry		0.2	0.2	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Chromium	66	mg/kg-dry		5	1	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Cobalt	17	mg/kg-dry		5	2	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Copper	2650	mg/kg-dry		6	6	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
Iron	46100	mg/kg-dry	D	100	100	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
Lead	668	mg/kg-dry		5	0.8	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Manganese	2220	mg/kg-dry		5	2	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
Molybdenum	16	mg/kg-dry		5	0.4	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Nickel	30	mg/kg-dry		5	0.9	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Selenium	1.8	mg/kg-dry	J	5	0.8	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Silver	9	mg/kg-dry		5	0.4	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Uranium	11	mg/kg-dry		5	0.2	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Vanadium	98	mg/kg-dry		1	0.8	SW6020	12/13/18 12:25 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	47	44088
Zinc	4360	mg/kg-dry		7	7	SW6010B	12/12/18 12:43 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	33	44088
METALS, TOTAL												
Mercury	0.68	mg/kg-dry		0.10	0.016	SW7471B	12/12/18 09:47 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181212A	11	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-011
Collection Date: 11/29/18 15:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.4	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	8	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	32.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	7	R140479
3050 EXTRACTABLE METALS												
Aluminum	3980	mg/kg-dry	D	10	10	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
Antimony	3	mg/kg-dry	J	5	1	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Arsenic	113	mg/kg-dry		5	0.2	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Barium	72	mg/kg-dry		5	0.2	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Boron	10	mg/kg-dry		5	1	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
Cadmium	4.2	mg/kg-dry		0.2	0.1	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Chromium	48	mg/kg-dry		5	0.8	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Cobalt	24	mg/kg-dry		5	1	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Copper	993	mg/kg-dry		5	3	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
Iron	116000	mg/kg-dry	D	100	100	SW6010B	12/11/18 19:45 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181211B	34	44029
Lead	882	mg/kg-dry	D	7	7	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
Manganese	2300	mg/kg-dry		5	1	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
Molybdenum	5	mg/kg-dry		5	0.2	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Nickel	18	mg/kg-dry		5	0.5	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Selenium	2.8	mg/kg-dry	J	5	0.4	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Silver	6	mg/kg-dry		5	0.2	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Uranium	6	mg/kg-dry		5	0.1	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Vanadium	170	mg/kg-dry		1	0.5	SW6020	12/10/18 16:50 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	84	44029
Zinc	1720	mg/kg-dry		5	4	SW6010B	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	34	44029
METALS, TOTAL												
Mercury	0.16	mg/kg-dry		0.10	0.0019	SW7471B	12/10/18 11:53 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	57	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-05A Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-012
Collection Date: 11/29/18 15:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.1	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			)RYING OVEN 2_181217B	9	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	11.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	8	R140479
3050 EXTRACTABLE METALS												
Aluminum	3930	mg/kg-dry	D	10	10	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
Antimony	1	mg/kg-dry	J	5	1	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Arsenic	44	mg/kg-dry		5	0.2	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Barium	59	mg/kg-dry		5	0.2	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Boron	4	mg/kg-dry	J	5	1	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
Cadmium	1.5	mg/kg-dry		0.2	0.1	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Chromium	10	mg/kg-dry		5	0.7	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Copper	304	mg/kg-dry		5	3	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
Iron	27500	mg/kg-dry	D	70	70	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
Lead	71	mg/kg-dry		5	0.4	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Manganese	368	mg/kg-dry		5	1	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
Molybdenum	2.1	mg/kg-dry	J	5	0.2	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Nickel	4.3	mg/kg-dry	J	5	0.5	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Silver	1.0	mg/kg-dry	J	5	0.2	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Vanadium	19	mg/kg-dry		1	0.4	SW6020	12/10/18 17:06 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	92	44029
Zinc	1730	mg/kg-dry		5	4	SW6010B	12/10/18 17:16 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	35	44029
METALS, TOTAL												
Mercury	0.15	mg/kg-dry		0.10	0.0022	SW7471B	12/10/18 11:55 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	58	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-013
Collection Date: 11/29/18 14:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	71.0	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	10	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.8	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	9	R140479
3050 EXTRACTABLE METALS												
Aluminum	30000	mg/kg-dry	D	30	30	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
Antimony	ND	mg/kg-dry		5	3	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Arsenic	51	mg/kg-dry		5	0.7	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Barium	257	mg/kg-dry		5	0.5	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
Beryllium	1	mg/kg-dry	J	5	1	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Boron	16	mg/kg-dry		5	3	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
Cadmium	1.8	mg/kg-dry		0.3	0.3	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Chromium	57	mg/kg-dry		5	2	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Cobalt	11	mg/kg-dry		5	3	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Copper	129	mg/kg-dry		10	10	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
Iron	25500	mg/kg-dry	D	200	200	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
Lead	99	mg/kg-dry		5	1	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Manganese	732	mg/kg-dry		5	3	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
Molybdenum	1.6	mg/kg-dry	J	5	0.6	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Nickel	35	mg/kg-dry		5	1	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Selenium	4	mg/kg-dry	J	5	1	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Silver	1.1	mg/kg-dry	J	5	0.6	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Uranium	5	mg/kg-dry		5	0.3	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Vanadium	59	mg/kg-dry		1	1	SW6020	12/13/18 12:45 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	57	44088
Zinc	187	mg/kg-dry		10	10	SW6010B	12/12/18 13:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	38	44088
METALS, TOTAL												
Mercury	0.21	mg/kg-dry		0.10	0.0054	SW7471B	12/10/18 11:57 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	59	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-014
Collection Date: 11/29/18 14:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	27.0	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	11	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	23.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	10	R140479
3050 EXTRACTABLE METALS												
Aluminum	8110	mg/kg-dry	D	10	10	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
Antimony	ND	mg/kg-dry		5	1	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Arsenic	22	mg/kg-dry		5	0.3	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Barium	152	mg/kg-dry		5	0.2	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
Cadmium	ND	mg/kg-dry		0.2	0.1	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Chromium	15	mg/kg-dry		5	0.9	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Copper	20	mg/kg-dry		5	4	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
Iron	14200	mg/kg-dry	D	80	80	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
Lead	7	mg/kg-dry		5	0.5	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Manganese	273	mg/kg-dry		5	1	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Nickel	8	mg/kg-dry		5	0.5	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Silver	0.2	mg/kg-dry	J	5	0.2	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Vanadium	39	mg/kg-dry		1	0.5	SW6020	12/10/18 17:10 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	94	44029
Zinc	57	mg/kg-dry		5	4	SW6010B	12/10/18 17:42 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	42	44029
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0022	SW7471B	12/10/18 11:59 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	60	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15G 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110573-015
Collection Date: 11/29/18 14:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 12	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	24.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 11	R140479
3050 EXTRACTABLE METALS												
Aluminum	10300	mg/kg-dry	D	10	10	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
Antimony	2	mg/kg-dry	J	5	1	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Arsenic	31	mg/kg-dry		5	0.2	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Barium	142	mg/kg-dry		5	0.2	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
Cadmium	0.2	mg/kg-dry		0.2	0.1	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Chromium	14	mg/kg-dry		5	0.8	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Copper	78	mg/kg-dry		5	4	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
Iron	16000	mg/kg-dry	D	70	70	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
Lead	18	mg/kg-dry		5	0.5	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Manganese	156	mg/kg-dry		5	1	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Nickel	9	mg/kg-dry		5	0.5	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Silver	0.3	mg/kg-dry	J	5	0.2	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Vanadium	30	mg/kg-dry		1	0.5	SW6020	12/10/18 17:12 / sld	12/06/18 12:18	SW3050 B	ICPMS205-H_181210B	: 95	44029
Zinc	263	mg/kg-dry		5	4	SW6010B	12/10/18 17:46 / sld	12/06/18 12:18	SW3050 B	ICP2-HE_181210B	: 43	44029
METALS, TOTAL												
Mercury	0.009	mg/kg-dry	J	0.10	0.0022	SW7471B	12/10/18 12:00 / dck	12/06/18 09:43	SW7471B	HGCV201-H_181210A	: 61	44028

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 181210sa-hg201

Run ID :Run Order: **HGCV201-H_181210A: 18** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/10/18 11:12** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**99**	90	110				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 51** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/10/18 11:39** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**104**	90	110				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 62** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/10/18 12:02** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**106**	90	110				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43931

Run ID :Run Order: **FIA202-HE_181204A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **12/04/18 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000940	0.010		0		0	0				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA202-HE_181204A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**

Analysis Date: **12/04/18 09:19** Units: **mg/L** **Prep Info:** Prep Date: **11/28/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.243	0.010	0.25	0	97	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA202-HE_181204A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/04/18 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0988	0.010	0.1	0	99	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43972

Run ID :Run Order: **ICP2-HE_181204B: 34** SampType: **Method Blank** Lab ID: **MB-43972** Method: **E200.7**

Analysis Date: **12/04/18 14:14** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									
Magnesium	ND	0.009									
Potassium	ND	0.06									
Sodium	ND	0.03									

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 35** SampType: **Laboratory Control Sample** Lab ID: **LCS-43972** Method: **E200.7**

Analysis Date: **12/04/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.503	0.050	0.5	0	**101**	85	115				
Calcium	25.5	1.0	25	0	**102**	85	115				
Magnesium	25.5	1.0	25	0	**102**	85	115				
Potassium	26.5	1.0	25	0	**106**	85	115				
Sodium	26.6	1.0	25	0	**106**	85	115				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 42** SampType: **Serial Dilution** Lab ID: **H18110573-002CDIL** Method: **E200.7**

Analysis Date: **12/04/18 14:45** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0.02083		10	
Calcium	30.8	1.0		0		0	0	32.05	**4.1**	10	
Magnesium	7.91	1.0		0		0	0	8.175		10	N
Potassium	2.61	1.0		0		0	0	2.866		10	N
Sodium	11.4	1.0		0		0	0	12.09	**5.8**	10	

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 43** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-002CPDS** Method: **E200.7**

Analysis Date: **12/04/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.993	0.050	1.03	0.02083	**94**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43972

Run ID :Run Order: **ICP2-HE_181204B: 43** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-002CPDS** Method: **E200.7**

Analysis Date: **12/04/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	83.2	1.0	51.5	32.05	**99**	70	130				
Magnesium	61.3	1.0	51.5	8.175	**103**	70	130				
Potassium	56.3	1.0	51.5	2.866	**104**	70	130				
Sodium	65.6	1.0	51.5	12.09	**104**	70	130				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 44** SampType: **Sample Matrix Spike** Lab ID: **H18110573-002CMS3** Method: **E200.7**

Analysis Date: **12/04/18 14:52** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.545	0.050	0.5	0.02083	**105**	70	130				
Calcium	58.0	1.0	25	32.05	**104**	70	130				
Magnesium	34.7	1.0	25	8.175	**106**	70	130				
Potassium	29.8	1.0	25	2.866	**108**	70	130				
Sodium	38.7	1.0	25	12.09	**106**	70	130				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-002CMSD3** Method: **E200.7**

Analysis Date: **12/04/18 14:56** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.524	0.050	0.5	0.02083	**101**	70	130	0.5446	**3.9**	20	
Calcium	55.4	1.0	25	32.05	**93**	70	130	58.02	**4.7**	20	
Magnesium	33.3	1.0	25	8.175	**100**	70	130	34.73	**4.2**	20	
Potassium	28.6	1.0	25	2.866	**103**	70	130	29.77	**4.1**	20	
Sodium	37.1	1.0	25	12.09	**100**	70	130	38.71	**4.2**	20	

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43972

Run ID :Run Order: **ICPMS205-H_181204A: 79** SampType: **Method Blank** Lab ID: **MB-43972** Method: **E200.8**

Analysis Date: **12/04/18 13:14** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0001									
Arsenic	5E-05	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	0.0001	0.0001									
Cobalt	ND	6E-05									
Copper	0.0002	0.0002									
Iron	ND	0.004									
Lead	ND	4E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	ND	5E-05									
Silver	1E-05	9E-06									
Uranium	ND	9E-06									
Vanadium	0.0002	2E-05									
Zinc	ND	0.001									

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 84** SampType: **Laboratory Control Sample** Lab ID: **LCS-43972** Method: **E200.8**

Analysis Date: **12/04/18 13:23** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0	**100**	85	115				
Antimony	0.575	0.0010	0.5	0	**115**	85	115				
Arsenic	0.526	0.0010	0.5	0.0000506	**105**	85	115				
Barium	0.542	0.050	0.5	0	**108**	85	115				
Beryllium	0.238	0.0010	0.25	0	**95**	85	115				
Cadmium	0.270	0.0010	0.25	0	**108**	85	115				
Chromium	0.532	0.0050	0.5	0.0001228	**106**	85	115				
Cobalt	0.529	0.0050	0.5	0	**106**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43972

Run ID :Run Order: **ICPMS205-H_181204A: 84** SampType: **Laboratory Control Sample** Lab ID: **LCS-43972** Method: **E200.8**

Analysis Date: **12/04/18 13:23** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.557	0.0050	0.5	0.0002321	111	85	115				
Iron	2.57	0.020	2.5	0	103	85	115				
Lead	0.551	0.0010	0.5	0	110	85	115				
Manganese	2.71	0.0010	2.5	0	108	85	115				
Molybdenum	0.559	0.0010	0.5	0	112	85	115				
Nickel	0.522	0.0050	0.5	0	104	85	115				
Selenium	0.500	0.0010	0.5	0	100	85	115				
Silver	0.0542	0.0010	0.05	0.00001204	108	85	115				
Uranium	0.526	0.00030	0.5	0	105	85	115				
Vanadium	0.535	0.010	0.5	0.0001805	107	85	115				
Zinc	0.526	0.010	0.5	0	105	85	115				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 85** SampType: **Sample Matrix Spike** Lab ID: **H18110573-002CMS3** Method: **E200.8**

Analysis Date: **12/04/18 13:25** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.65	0.030	2.5	0.1153	101	70	130				
Antimony	0.577	0.0010	0.5	0.0001534	115	70	130				
Arsenic	0.526	0.0010	0.5	0.002576	105	70	130				
Barium	0.586	0.050	0.5	0.04789	108	70	130				
Beryllium	0.261	0.0010	0.25	0	104	70	130				
Cadmium	0.267	0.0010	0.25	0	107	70	130				
Chromium	0.529	0.0050	0.5	0.0003775	106	70	130				
Cobalt	0.528	0.0050	0.5	0.000139	106	70	130				
Copper	0.544	0.0050	0.5	0.003331	108	70	130				
Iron	3.10	0.020	2.5	0.5853	101	70	130				
Lead	0.553	0.0010	0.5	0.0005009	110	70	130				
Manganese	2.71	0.0010	2.5	0.07059	106	70	130				
Molybdenum	0.551	0.0010	0.5	0.004474	109	70	130				
Nickel	0.514	0.0050	0.5	0.0004019	103	70	130				
Selenium	0.522	0.0010	0.5	0.0001368	104	70	130				
Silver	0.0535	0.0010	0.05	0.00001297	107	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43972

Run ID :Run Order: **ICPMS205-H_181204A: 85** SampType: **Sample Matrix Spike** Lab ID: **H18110573-002CMS3** Method: **E200.8**

Analysis Date: **12/04/18 13:25** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.527	0.00030	0.5	0.003231	105	70	130				
Vanadium	0.527	0.010	0.5	0.002647	105	70	130				
Zinc	0.524	0.010	0.5	0.005248	104	70	130				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 86** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-002CMSD3** Method: **E200.8**

Analysis Date: **12/04/18 13:27** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0.1153	96	70	130	2.652	5.2	20	
Antimony	0.548	0.0010	0.5	0.0001534	110	70	130	0.5771	5.2	20	
Arsenic	0.499	0.0010	0.5	0.002576	99	70	130	0.5262	5.3	20	
Barium	0.557	0.050	0.5	0.04789	102	70	130	0.586	5.0	20	
Beryllium	0.243	0.0010	0.25	0	97	70	130	0.2606	7.0	20	
Cadmium	0.253	0.0010	0.25	0	101	70	130	0.2671	5.4	20	
Chromium	0.506	0.0050	0.5	0.0003775	101	70	130	0.5294	4.6	20	
Cobalt	0.494	0.0050	0.5	0.000139	99	70	130	0.5281	6.6	20	
Copper	0.516	0.0050	0.5	0.003331	103	70	130	0.5437	5.2	20	
Iron	2.91	0.020	2.5	0.5853	93	70	130	3.1	6.2	20	
Lead	0.537	0.0010	0.5	0.0005009	107	70	130	0.5527	2.8	20	
Manganese	2.54	0.0010	2.5	0.07059	99	70	130	2.711	6.6	20	
Molybdenum	0.528	0.0010	0.5	0.004474	105	70	130	0.5514	4.4	20	
Nickel	0.486	0.0050	0.5	0.0004019	97	70	130	0.5142	5.7	20	
Selenium	0.494	0.0010	0.5	0.0001368	99	70	130	0.5225	5.6	20	
Silver	0.0509	0.0010	0.05	0.00001297	102	70	130	0.05347	4.9	20	
Uranium	0.509	0.00030	0.5	0.003231	101	70	130	0.5272	3.5	20	
Vanadium	0.501	0.010	0.5	0.002647	100	70	130	0.5266	5.0	20	
Zinc	0.495	0.010	0.5	0.005248	98	70	130	0.5238	5.7	20	

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43976

Run ID :Run Order: **FIA202-HE_181204A: 11** SampType: **Method Blank** Lab ID: **MB-43976** Method: **E365.1**
Analysis Date: **12/04/18 09:20** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA202-HE_181204A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43976** Method: **E365.1**
Analysis Date: **12/04/18 09:22** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.420	0.010	0.4	0	**105**	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA202-HE_181204A: 33** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004DMS** Method: **E365.1**
Analysis Date: **12/04/18 09:48** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.246	0.010	0.2	0.032	**107**	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA202-HE_181204A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-004DMSD** Method: **E365.1**
Analysis Date: **12/04/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.251	0.010	0.2	0.032	**109**	90	110	0.2456	**2.1**	20	

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43987

Run ID :Run Order: **FIA203-HE_181204A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **12/04/18 09:43** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.00610	0.10		0		0	0				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A**

Run ID :Run Order: **FIA203-HE_181204A: 92** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **12/04/18 11:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.494	0.10	0.5	0	99	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43988

Run ID :Run Order: **FIA203-HE_181204A: 66** SampType: **Method Blank** Lab ID: **MB-43988** Method: **A4500 N-C**
Analysis Date: **12/04/18 11:00** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.03									

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A**

Run ID :Run Order: **FIA203-HE_181204A: 67** SampType: **Laboratory Control Sample** Lab ID: **LCS-43988** Method: **A4500 N-C**
Analysis Date: **12/04/18 11:02** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	8.09	0.30	7.44	0	**109**	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A**

Run ID :Run Order: **FIA203-HE_181204A: 87** SampType: **Sample Matrix Spike** Lab ID: **H18110544-007AMS** Method: **A4500 N-C**
Analysis Date: **12/04/18 11:26** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.20	0.10	1	0.1958	**100**	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A**

Run ID :Run Order: **FIA203-HE_181204A: 88** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110544-007AMSD** Method: **A4500 N-C**
Analysis Date: **12/04/18 11:27** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.14	0.10	1	0.1958	**94**	90	110	1.198	**5.1**	20	

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43991

Run ID :Run Order: **HGCV202-H_181205A: 11** SampType: **Method Blank** Lab ID: **MB-43991** Method: **E245.1**
Analysis Date: **12/05/18 10:41** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002	0.0009									

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **HGCV202-H_181205A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43991** Method: **E245.1**
Analysis Date: **12/05/18 10:44** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0495	0.0050	0.05	0.00164	96	90	110				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **HGCV202-H_181205A: 14** SampType: **Sample Matrix Spike** Lab ID: **H18110573-001BMS** Method: **E245.1**
Analysis Date: **12/05/18 10:50** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0529	0.0050	0.05	0.00339	99	70	130				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **HGCV202-H_181205A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-001BMSD** Method: **E245.1**
Analysis Date: **12/05/18 10:54** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0534	0.0050	0.05	0.00339	100	70	130	0.05289	0.9	20	

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **HGCV202-H_181205A: 29** SampType: **Sample Matrix Spike** Lab ID: **H18110574-002CMS** Method: **E245.1**
Analysis Date: **12/05/18 11:39** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0539	0.0050	0.05	0.00213	104	70	130				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43991

Run ID :Run Order: **HGCV202-H_181205A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-002CMSD** Method: **E245.1**

Analysis Date: **12/05/18 11:42** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0537	0.0050	0.05	0.00213	**103**	70	130	0.05391	**0.4**	20	

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **HGCV202-H_181206A: 11** SampType: **Method Blank** Lab ID: **MB-43991** Method: **E245.1**

Analysis Date: **12/06/18 12:29** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44016

Run ID :Run Order: **FIA203-HE_181206A: 8** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**
Analysis Date: **12/06/18 08:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.00400	0.10		0		0	0				

Associated samples: **H18110573-004A**

Run ID :Run Order: **FIA203-HE_181206A: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **A4500 N-C**
Analysis Date: **12/06/18 08:47** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.00	0.10	1	0	100	90	110				

Associated samples: **H18110573-004A**

Run ID :Run Order: **FIA203-HE_181206A: 22** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.469	0.10	0.5	0	94	90	110				

Associated samples: **H18110573-004A**

Run ID :Run Order: **FIA203-HE_181206A: 24** SampType: **Method Blank** Lab ID: **MB-44016** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:04** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.03									

Associated samples: **H18110573-004A**

Run ID :Run Order: **FIA203-HE_181206A: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44016** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:05** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	7.53	0.30	7.44	0	101	90	110				

Associated samples: **H18110573-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44016

Run ID :Run Order: **FIA203-HE_181206A: 27** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004AMS** Method: **A4500 N-C**

Analysis Date: **12/06/18 09:08** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.05	0.10	1	0.08451	**97**	90	110				

Associated samples: **H18110573-004A**

Run ID :Run Order: **FIA203-HE_181206A: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-004AMSD** Method: **A4500 N-C**

Analysis Date: **12/06/18 09:09** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.07	0.10	1	0.08451	**98**	90	110	1.05	**1.5**	20	

Associated samples: **H18110573-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44028

Run ID :Run Order: **HGCV201-H_181210A: 39** SampType: **Method Blank** Lab ID: **MB-44028** Method: **SW7471B**
Analysis Date: **12/10/18 11:15** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 40** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44028** Method: **SW7471B**
Analysis Date: **12/10/18 11:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.21	0.50	0.2	0	106	80	120				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 41** SampType: **Laboratory Control Sample** Lab ID: **LCS-44028** Method: **SW7471B**
Analysis Date: **12/10/18 11:19** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.5	0.50	5	0	110	71	126.4				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18110573-008AMS** Method: **SW7471B**
Analysis Date: **12/10/18 11:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.12	0.10	0.1159	0.01008	98	80	120				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-008AMSD** Method: **SW7471B**
Analysis Date: **12/10/18 11:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.13	0.10	0.1159	0.01008	101	80	120	0.124	2.1	20	

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44028

Run ID :Run Order: **HGCV201-H_181210A: 49** SampType: **Sample Matrix Spike** Lab ID: **H18110573-009AMS** Method: **SW7471B**
Analysis Date: **12/10/18 11:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.14	0.10	0.1323	0.002284	101	80	120				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181210A: 50** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-009AMSD** Method: **SW7471B**
Analysis Date: **12/10/18 11:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.13	0.10	0.1299	0.002284	101	80	120	0.1356	1.8	20	

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181212A: 10** SampType: **Method Blank** Lab ID: **MB-44028** Method: **SW7471B**
Analysis Date: **12/12/18 09:45** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181212A: 14** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW7471B**
Analysis Date: **12/12/18 09:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.86	0.10	0.2029	0.6778	88	80	120				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **HGCV201-H_181212A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW7471B**
Analysis Date: **12/12/18 09:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	1.2	0.10	0.1986	0.6778	248	80	120	0.857	31	20	SR

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 44029

Run ID :Run Order: **ICP2-HE_181210B: 23** SampType: **Method Blank** Lab ID: **MB-44029** Method: **SW6010B**

Analysis Date: **12/10/18 16:31** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Barium	ND	0.03									
Boron	ND	0.2									
Copper	ND	0.6									
Iron	ND	10									
Lead	ND	1									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 24** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44029** Method: **SW6010B**

Analysis Date: **12/10/18 16:35** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	282	5.0	260	0	**109**	80	120				
Barium	57.3	1.0	52	0	**110**	80	120				
Boron	54.8	1.0	52	0	**105**	80	120				
Copper	56.4	1.0	52	0	**108**	80	120				
Iron	270	11	260	0	**104**	80	120				
Lead	51.2	1.2	52	0	**99**	80	120				
Manganese	267	1.0	260	0	**103**	80	120				
Zinc	52.0	1.0	52	0	**100**	80	120				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44029** Method: **SW6010B**

Analysis Date: **12/10/18 16:39** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9730	9.9	9928	0	**98**	46.3	130.2				
Barium	179	1.0	188.9	0	**95**	78.6	112.8				
Boron	115	1.0	130.3	0	**88**	59.5	106.2				
Copper	125	2.8	138.4	0	**90**	76.6	108.8				
Iron	15600	55	16460	0	**95**	51.7	131.9				
Lead	104	5.7	106	0	**98**	74.4	108.6				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICP2-HE_181210B: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44029** Method: **SW6010B**

Analysis Date: **12/10/18 16:39** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	421	1.0	438.3	0	**96**	81.1	116.6				
Zinc	237	3.0	233.3	0	**102**	75.3	111.7				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 27** SampType: **Serial Dilution** Lab ID: **H18110573-008ADIL** Method: **SW6010B**

Analysis Date: **12/10/18 16:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3070	62		0		0	0	3014	**1.9**	10	
Barium	33.3	1.0		0		0	0	32.63	**1.9**	10	
Boron	ND	5.9		0		0	0	1.699		10	
Copper	19.5	17		0		0	0	26.55		10	N
Iron	18700	340		0		0	0	18010	**3.9**	10	
Lead	47.6	36		0		0	0	18.82		10	N
Manganese	223	5.3		0		0	0	214.3	**3.8**	10	
Zinc	125	19		0		0	0	122.3		10	N

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 30** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-008APDS** Method: **SW6010B**

Analysis Date: **12/10/18 16:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4680	13	1625	3014	**102**	75	125				
Barium	349	1.0	324.9	32.63	**97**	75	125				
Boron	325	1.2	324.9	1.699	**99**	75	125				
Copper	346	3.6	324.9	26.55	**98**	75	125				
Iron	19600	71	1625	18010		75	125				A
Lead	339	7.4	324.9	18.82	**99**	75	125				
Manganese	1810	1.1	1625	214.3	**99**	75	125				
Zinc	446	3.9	324.9	122.3	**100**	75	125				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICP2-HE_181210B: 31** SampType: **Sample Matrix Spike** Lab ID: **H18110573-008AMS** Method: **SW6010B**

Analysis Date: **12/10/18 17:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4450	12	301.3	3014		75	125				A
Barium	106	1.0	60.26	32.63	122	75	125				
Boron	65.6	1.1	60.26	1.699	106	75	125				
Copper	98.2	3.3	60.26	26.55	119	75	125				
Iron	19700	66	301.3	18010		75	125				A
Lead	79.9	6.9	60.26	18.82	101	75	125				
Manganese	556	1.0	301.3	214.3	113	75	125				
Zinc	321	3.6	60.26	122.3	330	75	125				S

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181210B: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-008AMSD** Method: **SW6010B**

Analysis Date: **12/10/18 17:05** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4600	12	302.9	3014		75	125	4448	3.3	20	A
Barium	105	1.0	60.57	32.63	119	75	125	106.3	1.5	20	
Boron	63.9	1.1	60.57	1.699	103	75	125	65.65	2.7	20	
Copper	105	3.3	60.57	26.55	129	75	125	98.18	6.5	20	S
Iron	20400	66	302.9	18010		75	125	19710	3.7	20	A
Lead	75.3	6.9	60.57	18.82	93	75	125	79.86	5.9	20	
Manganese	560	1.0	302.9	214.3	114	75	125	556.1	0.8	20	
Zinc	415	3.6	60.57	122.3	484	75	125	321.1	26	20	SR

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181210B: 36** SampType: **Serial Dilution** Lab ID: **H18110573-012ADIL** Method: **SW6010B**

Analysis Date: **12/10/18 17:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3990	60		0		0	0	3933	1.3	10	
Barium	59.7	1.0		0		0	0	59.28	0.8	10	
Boron	5.75	5.7		0		0	0	4.195		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 44029

Run ID :Run Order: **ICP2-HE_181210B: 36** SampType: **Serial Dilution** Lab ID: **H18110573-012ADIL** Method: **SW6010B**

Analysis Date: **12/10/18 17:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	297	17		0		0	0	304	2.5	10	
Iron	28400	330		0		0	0	27500	3.1	10	
Lead	80.0	35		0		0	0	71.03		10	N
Manganese	374	5.1		0		0	0	368.1	1.5	10	
Zinc	1700	18		0		0	0	1728	1.4	10	

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 37** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-012APDS** Method: **SW6010B**

Analysis Date: **12/10/18 17:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5500	12	1573	3933	99	75	125				
Barium	363	1.0	314.6	59.28	97	75	125				
Boron	300	1.2	314.6	4.195	94	75	125				
Copper	605	3.5	314.6	304	96	75	125				
Iron	28900	68	1573	27500		75	125				A
Lead	377	7.2	314.6	71.03	97	75	125				
Manganese	1920	1.1	1573	368.1	98	75	125				
Zinc	2030	3.8	314.6	1728		75	125				A

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 38** SampType: **Sample Matrix Spike** Lab ID: **H18110573-012AMS** Method: **SW6010B**

Analysis Date: **12/10/18 17:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5250	13	320	3933		75	125				A
Barium	148	1.0	63.99	59.28	138	75	125				S
Boron	71.7	1.2	63.99	4.195	106	75	125				
Copper	698	3.5	63.99	304		75	125				A
Iron	19300	69	320	27500		75	125				A
Lead	165	7.2	63.99	71.03	147	75	125				S
Manganese	1040	1.1	320	368.1	210	75	125				S
Zinc	1290	3.8	63.99	1728		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICP2-HE_181210B: 38** SampType: **Sample Matrix Spike** Lab ID: **H18110573-012AMS** Method: **SW6010B**

Analysis Date: **12/10/18 17:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181210B: 39** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-012AMSD** Method: **SW6010B**

Analysis Date: **12/10/18 17:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5680	13	323.1	3933		75	125	5255	7.8	20	A
Barium	296	1.0	64.63	59.28	366	75	125	147.5	67	20	SR
Boron	76.1	1.2	64.63	4.195	111	75	125	71.71	6.0	20	
Copper	436	3.6	64.63	304		75	125	698.3	46	20	AR
Iron	21400	71	323.1	27500		75	125	19280	10	20	A
Lead	173	7.4	64.63	71.03	158	75	125	165.3	4.7	20	S
Manganese	8850	1.1	323.1	368.1	2620	75	125	1041	160	20	SR
Zinc	2500	3.9	64.63	1728		75	125	1293	63	20	AR

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181211B: 33** SampType: **Method Blank** Lab ID: **MB-44029** Method: **SW6010B**

Analysis Date: **12/11/18 19:41** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Barium	ND	0.03									
Boron	ND	0.2									
Copper	ND	0.6									
Iron	ND	10									
Lead	ND	1									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICPMS205-H_181210B: 75** SampType: **Method Blank** Lab ID: **MB-44029** Method: **SW6020**

Analysis Date: **12/10/18 16:32** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	ND	0.04									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.08									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	0.3	0.04									
Uranium	ND	0.02									
Vanadium	0.08	0.08									

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 82** SampType: **Serial Dilution** Lab ID: **H18110573-008ADIL** Method: **SW6020**

Analysis Date: **12/10/18 16:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.4		0		0	0	0		10	
Arsenic	5.01	1.2		0		0	0	4.809		10	N
Beryllium	ND	1.9		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.1645		10	
Calcium	3010	2700		0		0	0	2942		10	N
Chromium	15.4	3.8		0		0	0	15.37		10	N
Cobalt	ND	5.9		0		0	0	2.211		10	
Lead	17.8	2.3		0		0	0	17.85		10	N
Molybdenum	1.13	1.0		0		0	0	1.091		10	N
Nickel	3.49	2.4		0		0	0	3.385		10	N
Selenium	ND	2.2		0		0	0	0		10	
Silver	ND	1.1		0		0	0	0.3465		10	
Uranium	2.38	1.0		0		0	0	2.315		10	N

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICPMS205-H_181210B: 82** SampType: **Serial Dilution** Lab ID: **H18110573-008ADIL** Method: **SW6020**

Analysis Date: **12/10/18 16:46** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	58.1	2.3		0		0	0	57.27	**1.4**	10	

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 85** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-008APDS1** Method: **SW6020**

Analysis Date: **12/10/18 16:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	32.9	1.1	31.55	0	**104**	75	125				
Arsenic	36.9	1.0	31.55	4.809	**102**	75	125				
Beryllium	25.7	1.0	31.55	0	**81**	75	125				
Cadmium	31.9	1.0	31.55	0.1645	**100**	75	125				
Calcium	3430	550	630.9	2942		75	125				A
Chromium	47.2	1.0	31.55	15.37	**101**	75	125				
Cobalt	34.2	1.2	31.55	2.211	**101**	75	125				
Lead	49.8	1.0	31.55	17.85	**101**	75	125				
Molybdenum	32.3	1.0	31.55	1.091	**99**	75	125				
Nickel	35.5	1.0	31.55	3.385	**102**	75	125				
Selenium	31.3	1.0	31.55	0	**99**	75	125				
Silver	13.4	1.0	12.62	0.3465	**103**	75	125				
Uranium	32.6	1.0	31.55	2.315	**96**	75	125				
Vanadium	89.4	1.0	31.55	57.27	**102**	75	125				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 86** SampType: **Sample Matrix Spike** Lab ID: **H18110573-008AMS** Method: **SW6020**

Analysis Date: **12/10/18 16:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.6	1.0	60.26	0	**84**	75	125				
Arsenic	70.7	1.0	60.26	4.809	**109**	75	125				
Beryllium	25.3	1.0	30.13	0	**84**	75	125				
Cadmium	31.7	1.0	30.13	0.1645	**105**	75	125				
Calcium	6980	520	3013	2942	**134**	75	125				SE
Chromium	80.5	1.0	60.26	15.37	**108**	75	125				
Cobalt	67.6	1.1	60.26	2.211	**109**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICPMS205-H_181210B: 86** SampType: **Sample Matrix Spike** Lab ID: **H18110573-008AMS** Method: **SW6020**

Analysis Date: **12/10/18 16:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	79.4	1.0	60.26	17.85	102	75	125				
Molybdenum	62.2	1.0	60.26	1.091	101	75	125				
Nickel	67.9	1.0	60.26	3.385	107	75	125				
Selenium	62.1	1.0	60.26	0	103	75	125				
Silver	32.3	1.0	30.13	0.3465	106	75	125				
Uranium	65.6	1.0	60.26	2.315	105	75	125				
Vanadium	127	1.0	60.26	57.27	115	75	125				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 87** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-008AMSD** Method: **SW6020**

Analysis Date: **12/10/18 16:56** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.8	1.0	60.57	0	84	75	125	50.59	0.3	20	
Arsenic	69.4	1.0	60.57	4.809	107	75	125	70.69	1.9	20	
Beryllium	25.2	1.0	30.29	0	83	75	125	25.29	0.4	20	
Cadmium	31.8	1.0	30.29	0.1645	104	75	125	31.67	0.4	20	
Calcium	6490	530	3029	2942	117	75	125	6979	7.2	20	E
Chromium	74.9	1.0	60.57	15.37	98	75	125	80.53	7.2	20	
Cobalt	68.3	1.1	60.57	2.211	109	75	125	67.62	1.0	20	
Lead	78.7	1.0	60.57	17.85	101	75	125	79.38	0.8	20	
Molybdenum	62.3	1.0	60.57	1.091	101	75	125	62.19	0.2	20	
Nickel	66.9	1.0	60.57	3.385	105	75	125	67.86	1.4	20	
Selenium	62.0	1.0	60.57	0	102	75	125	62.13	0.3	20	
Silver	32.5	1.0	30.29	0.3465	106	75	125	32.27	0.6	20	
Uranium	65.2	1.0	60.57	2.315	104	75	125	65.57	0.6	20	
Vanadium	123	1.0	60.57	57.27	108	75	125	126.6	3.0	20	

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 93** SampType: **Serial Dilution** Lab ID: **H18110573-012ADIL** Method: **SW6020**

Analysis Date: **12/10/18 17:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.2		0		0	0	1.289		10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICPMS205-H_181210B: 93** SampType: **Serial Dilution** Lab ID: **H18110573-012ADIL** Method: **SW6020**

Analysis Date: **12/10/18 17:08** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	44.5	1.2		0		0	0	43.99	**1.2**	10	
Beryllium	ND	1.8		0		0	0	0		10	
Cadmium	1.55	1.0		0		0	0	1.496		10	N
Calcium	3080	2700		0		0	0	2968		10	N
Chromium	10.8	3.7		0		0	0	10.37		10	N
Cobalt	ND	5.8		0		0	0	4.018		10	
Lead	73.2	2.2		0		0	0	71.28	**2.7**	10	
Molybdenum	2.17	1.0		0		0	0	2.091		10	N
Nickel	4.61	2.3		0		0	0	4.324		10	N
Selenium	ND	2.1		0		0	0	0		10	
Silver	ND	1.0		0		0	0	0.9687		10	
Uranium	1.28	1.0		0		0	0	1.23		10	N
Vanadium	19.1	2.2		0		0	0	18.51		10	N

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 96** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-012APDS1** Method: **SW6020**

Analysis Date: **12/10/18 17:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	32.2	1.0	30.54	1.289	**101**	75	125				
Arsenic	74.3	1.0	30.54	43.99	**99**	75	125				
Beryllium	24.3	1.0	30.54	0	**79**	75	125				
Cadmium	31.3	1.0	30.54	1.496	**98**	75	125				
Calcium	3490	530	610.8	2968		75	125				A
Chromium	40.7	1.0	30.54	10.37	**99**	75	125				
Cobalt	34.6	1.2	30.54	4.018	**100**	75	125				
Lead	104	1.0	30.54	71.28	**108**	75	125				
Molybdenum	31.5	1.0	30.54	2.091	**96**	75	125				
Nickel	35.4	1.0	30.54	4.324	**102**	75	125				
Selenium	30.2	1.0	30.54	0	**99**	75	125				
Silver	13.1	1.0	12.22	0.9687	**100**	75	125				
Uranium	30.5	1.0	30.54	1.23	**96**	75	125				
Vanadium	48.9	1.0	30.54	18.51	**99**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICPMS205-H_181210B: 96** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-012APDS1** Method: **SW6020**

Analysis Date: **12/10/18 17:14** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 97** SampType: **Sample Matrix Spike** Lab ID: **H18110573-012AMS** Method: **SW6020**

Analysis Date: **12/10/18 17:15** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	61.2	1.1	63.99	1.289	94	75	125				
Arsenic	131	1.0	63.99	43.99	136	75	125				S
Beryllium	26.7	1.0	32	0	83	75	125				
Cadmium	34.2	1.0	32	1.496	102	75	125				
Calcium	6600	550	3200	2968	114	75	125				E
Chromium	75.5	1.0	63.99	10.37	102	75	125				
Cobalt	70.9	1.2	63.99	4.018	105	75	125				
Lead	166	1.0	63.99	71.28	148	75	125				S
Molybdenum	66.5	1.0	63.99	2.091	101	75	125				
Nickel	72.1	1.0	63.99	4.324	106	75	125				
Selenium	64.8	1.0	63.99	0	101	75	125				
Silver	42.2	1.0	32	0.9687	129	75	125				S
Uranium	69.5	1.0	63.99	1.23	107	75	125				
Vanadium	87.3	1.0	63.99	18.51	107	75	125				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_181210B: 98** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-012AMSD** Method: **SW6020**

Analysis Date: **12/10/18 17:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	59.9	1.1	64.63	1.289	91	75	125	61.16	2.1	20	
Arsenic	145	1.0	64.63	43.99	156	75	125	131.3	9.9	20	S
Beryllium	26.8	1.0	32.31	0	83	75	125	26.71	0.4	20	
Cadmium	36.4	1.0	32.31	1.496	108	75	125	34.2	6.1	20	
Calcium	8370	560	3231	2968	167	75	125	6603	24	20	SRE
Chromium	77.0	1.0	64.63	10.37	103	75	125	75.53	1.9	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44029

Run ID :Run Order: **ICPMS205-H_181210B: 98** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-012AMSD** Method: **SW6020**

Analysis Date: **12/10/18 17:17** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	73.3	1.2	64.63	4.018	107	75	125	70.94	3.2	20	
Lead	181	1.0	64.63	71.28	169	75	125	166	8.4	20	S
Molybdenum	67.5	1.0	64.63	2.091	101	75	125	66.54	1.5	20	
Nickel	74.5	1.0	64.63	4.324	109	75	125	72.09	3.3	20	
Selenium	66.6	1.0	64.63	0	103	75	125	64.76	2.8	20	
Silver	42.8	1.0	32.31	0.9687	129	75	125	42.18	1.5	20	S
Uranium	71.8	1.0	64.63	1.23	109	75	125	69.54	3.1	20	
Vanadium	94.1	1.0	64.63	18.51	117	75	125	87.26	7.5	20	

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICPMS205-H_181212B: 23** SampType: **Laboratory Control Sample** Lab ID: **LCS-44029** Method: **SW6020**

Analysis Date: **12/12/18 13:27** Units: **mg/kg** **Prep Info:** Prep Date: **12/6/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	68.3	1.0	242.4	0	28	0	92.9				
Arsenic	179	1.0	198	0	90	71.4	105.1				
Beryllium	73.7	1.0	84.44	0	87	76.2	108				
Cadmium	101	1.0	99.99	0	101	73.9	106.1				
Calcium	6000	440	6424	0	93	78.9	113.5				
Chromium	116	1.0	118.2	0	98	73.5	108.5				
Cobalt	114	1.0	109.1	0	104	74.2	105.6				
Lead	112	1.0	106	0	106	74.4	108.6				
Molybdenum	120	1.0	128.3	0	93	66.5	103.1				
Nickel	85.2	1.0	87.06	0	98	72.3	105				
Selenium	204	1.0	207	0	99	71.2	110.2				
Silver	42.8	1.0	42.52	0.1913	100	70.8	111.9				
Uranium	102	1.0	100.9	0	101	80.1	120.1				
Vanadium	114	1.0	115.1	0	99	67	107				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181212B: 26** SampType: **Method Blank** Lab ID: **MB-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Barium	ND	0.03									
Boron	ND	0.2									
Copper	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 27** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:21** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	280	5.0	260	0	**108**	80	120				
Barium	57.3	1.0	52	0	**110**	80	120				
Boron	55.6	1.0	52	0	**107**	80	120				
Copper	56.2	1.0	52	0	**108**	80	120				
Iron	270	11	260	0	**104**	80	120				
Manganese	270	1.0	260	0	**104**	80	120				
Zinc	52.6	1.0	52	0	**101**	80	120				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9910	10	9830	0	**101**	46.3	130.2				
Barium	169	1.0	187	0	**90**	78.6	112.8				
Boron	114	1.0	129	0	**88**	59.5	106.2				
Copper	124	2.8	137	0	**91**	76.6	108.8				
Iron	15800	56	16300	0	**97**	51.7	131.9				
Manganese	418	1.0	434	0	**96**	81.1	116.6				
Zinc	236	3.1	231	0	**102**	75.3	111.7				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181212B: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 34** SampType: **Serial Dilution** Lab ID: **H18110573-010ADIL** Method: **SW6010B**

Analysis Date: **12/12/18 12:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24000	110		0		0	0	23340	**2.7**	10	
Barium	335	1.7		0		0	0	325.8	**2.9**	10	
Boron	ND	11		0		0	0	10.88		10	
Copper	2750	31		0		0	0	2647	**3.6**	10	
Iron	47800	620		0		0	0	46100	**3.6**	10	
Manganese	2250	9.5		0		0	0	2218	**1.6**	10	
Zinc	4490	34		0		0	0	4359	**2.9**	10	

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 35** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-010APDS** Method: **SW6010B**

Analysis Date: **12/12/18 12:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26400	23	2924	23340		75	125				A
Barium	882	1.0	584.8	325.8	**95**	75	125				
Boron	553	2.2	584.8	10.88	**93**	75	125				
Copper	3230	6.4	584.8	2647		75	125				A
Iron	47600	130	2924	46100		75	125				A
Manganese	4820	2.0	2924	2218	**89**	75	125				
Zinc	4850	7.0	584.8	4359		75	125				A

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW6010B**

Analysis Date: **12/12/18 12:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25700	22	566.7	23340		75	125				A
Barium	426	1.0	113.3	325.8	**89**	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181212B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW6010B**

Analysis Date: **12/12/18 12:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	122	2.1	113.3	10.88	98	75	125				
Copper	2700	6.2	113.3	2647		75	125				A
Iron	46600	120	566.7	46100		75	125				A
Manganese	2780	1.9	566.7	2218	99	75	125				
Zinc	4440	6.8	113.3	4359		75	125				A

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW6010B**

Analysis Date: **12/12/18 12:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24900	22	550.5	23340		75	125	25660	3.0	20	A
Barium	415	1.0	110.1	325.8	81	75	125	426.3	2.7	20	
Boron	118	2.1	110.1	10.88	97	75	125	122.2	3.7	20	
Copper	2700	6.1	110.1	2647		75	125	2696	0.2	20	A
Iron	46000	120	550.5	46100		75	125	46550	1.2	20	A
Manganese	2720	1.9	550.5	2218		75	125	2777	2.0	20	A
Zinc	4420	6.6	110.1	4359		75	125	4441	0.4	20	A

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181213B: 158** SampType: **Serial Dilution** Lab ID: **H18110573-007ADIL** Method: **SW6010B**

Analysis Date: **12/13/18 19:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20800	100		0		0	0	20450	1.9	10	
Barium	311	1.5		0		0	0	305.2	1.9	10	
Boron	24.0	9.6		0		0	0	14.6		10	N
Copper	258	28		0		0	0	236.7		10	N
Iron	38700	550		0		0	0	37540	3.1	10	
Manganese	2040	8.6		0		0	0	2000	1.8	10	
Zinc	421	31		0		0	0	386.4	8.5	10	

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181213B: 159** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-007APDS** Method: **SW6010B**

Analysis Date: **12/13/18 19:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	22900	21	2621	20450		75	125				A
Barium	777	1.0	524.2	305.2	90	75	125				
Boron	503	2.0	524.2	14.6	93	75	125				
Copper	714	5.8	524.2	236.7	91	75	125				
Iron	39000	110	2621	37540		75	125				A
Manganese	4420	1.8	2621	2000	92	75	125				
Zinc	891	6.3	524.2	386.4	96	75	125				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181213B: 160** SampType: **Sample Matrix Spike** Lab ID: **H18110573-007AMS** Method: **SW6010B**

Analysis Date: **12/13/18 19:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24300	21	533	20450		75	125				A
Barium	432	1.0	106.6	305.2	119	75	125				
Boron	121	2.0	106.6	14.6	99	75	125				
Copper	350	5.9	106.6	236.7	107	75	125				
Iron	39700	120	533	37540		75	125				A
Manganese	2590	1.8	533	2000	110	75	125				
Zinc	530	6.4	106.6	386.4	135	75	125				S

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181213B: 163** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-007AMSD** Method: **SW6010B**

Analysis Date: **12/13/18 19:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25700	20	510.5	20450		75	125	24340	5.6	20	A
Barium	424	1.0	102.1	305.2	116	75	125	431.7	1.9	20	
Boron	114	1.9	102.1	14.6	97	75	125	120.5	5.8	20	
Copper	351	5.6	102.1	236.7	112	75	125	350.4	0.1	20	
Iron	38500	110	510.5	37540		75	125	39680	3.0	20	A
Manganese	2290	1.7	510.5	2000	58	75	125	2587	12	20	S
Zinc	498	6.2	102.1	386.4	109	75	125	530.3	6.3	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181213B: 163** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-007AMSD** Method: **SW6010B**

Analysis Date: **12/13/18 19:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 42** SampType: **Method Blank** Lab ID: **MB-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:15** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	ND	0.04									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	80									
Chromium	0.1	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									
Molybdenum	0.09	0.03									
Nickel	ND	0.07									
Selenium	ND	0.07									
Silver	0.4	0.03									
Uranium	ND	0.02									
Vanadium	0.08	0.07									

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 43** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	68.1	1.0	240	0	**28**	0	92.9				
Arsenic	176	1.0	196	0	**90**	71.4	105.1				
Beryllium	73.7	1.0	83.6	0	**88**	76.2	108				
Cadmium	101	1.0	99	0	**102**	73.9	106.1				
Calcium	6120	440	6360	0	**96**	78.9	113.5				
Chromium	115	1.0	117	0.1236	**98**	73.5	108.5				
Cobalt	112	1.0	108	0	**104**	74.2	105.6				
Lead	107	1.0	105	0	**102**	74.4	108.6				
Molybdenum	122	1.0	127	0.08605	**96**	66.5	103.1				
Nickel	87.1	1.0	86.2	0	**101**	72.3	105				
Selenium	200	1.0	205	0	**98**	71.2	110.2				
Silver	45.0	1.0	42.1	0.3656	**106**	70.8	111.9				
Uranium	101	1.0	99.9	0	**101**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 43** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	113	1.0	114	0.08073	99	67	107				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 48** SampType: **Serial Dilution** Lab ID: **H18110573-010ADIL** Method: **SW6020**

Analysis Date: **12/13/18 12:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	9.6		0		0	0	2.08		10	
Arsenic	320	2.2		0		0	0	317.3	0.7	10	
Beryllium	ND	3.3		0		0	0	0.8194		10	
Cadmium	21.6	1.0		0		0	0	21.02	2.7	10	
Calcium	13000	4900		0		0	0	12470		10	N
Chromium	65.3	6.9		0		0	0	66.36		10	N
Cobalt	17.0	11		0		0	0	17.2		10	N
Lead	673	4.1		0		0	0	668.1	0.8	10	
Molybdenum	16.8	1.9		0		0	0	16.33		10	N
Nickel	30.7	4.3		0		0	0	30.47		10	N
Selenium	ND	4.0		0		0	0	1.837		10	
Silver	8.58	1.9		0		0	0	8.977		10	N
Uranium	11.2	1.1		0		0	0	10.76		10	N
Vanadium	99.0	4.2		0		0	0	98.21	0.8	10	

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 49** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-010APDS1** Method: **SW6020**

Analysis Date: **12/13/18 12:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	61.8	1.9	56.78	2.08	105	75	125				
Arsenic	363	1.0	56.78	317.3		75	125				A
Beryllium	51.1	1.0	56.78	0.8194	89	75	125				
Cadmium	79.0	1.0	56.78	21.02	102	75	125				
Calcium	13400	990	1136	12470		75	125				A
Chromium	120	1.4	56.78	66.36	94	75	125				
Cobalt	74.2	2.1	56.78	17.2	100	75	125				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 49** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-010APDS1** Method: **SW6020**

Analysis Date: **12/13/18 12:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	699	1.0	56.78	668.1		75	125				A
Molybdenum	73.7	1.0	56.78	16.33	101	75	125				
Nickel	86.9	1.0	56.78	30.47	99	75	125				
Selenium	58.4	1.0	56.78	1.837	100	75	125				
Silver	33.0	1.0	22.71	8.977	106	75	125				
Uranium	65.3	1.0	56.78	10.76	96	75	125				
Vanadium	151	1.0	56.78	98.21	92	75	125				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 50** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:31** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	56.9	1.0	52	0	109	80	120				
Arsenic	54.8	1.0	52	0	105	80	120				
Beryllium	24.7	1.0	26	0	95	80	120				
Cadmium	28.4	1.0	26	0	109	80	120				
Calcium	2640	450	2600	0	102	80	120				
Chromium	55.4	1.0	52	0.1236	106	80	120				
Cobalt	56.2	1.0	52	0	108	80	120				
Lead	55.8	1.0	52	0	107	80	120				
Molybdenum	54.9	1.0	52	0.08605	105	80	120				
Nickel	56.8	1.0	52	0	109	80	120				
Selenium	54.2	1.0	52	0	104	80	120				
Silver	29.5	1.0	26	0.3656	112	80	120				
Uranium	55.2	1.0	52	0	106	80	120				
Vanadium	54.1	1.0	52	0.08073	104	80	120				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 51** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW6020**

Analysis Date: **12/13/18 12:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.5	1.9	113.3	2.08	44	75	125				S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 51** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW6020**

Analysis Date: **12/13/18 12:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	429	1.0	113.3	317.3	99	75	125				
Beryllium	53.3	1.0	56.67	0.8194	93	75	125				
Cadmium	79.9	1.0	56.67	21.02	104	75	125				
Calcium	18700	990	5667	12470	111	75	125				E
Chromium	183	1.4	113.3	66.36	103	75	125				
Cobalt	135	2.1	113.3	17.2	104	75	125				
Lead	759	1.0	113.3	668.1		75	125				A
Molybdenum	132	1.0	113.3	16.33	102	75	125				
Nickel	148	1.0	113.3	30.47	103	75	125				
Selenium	118	1.0	113.3	1.837	102	75	125				
Silver	70.8	1.0	56.67	8.977	109	75	125				
Uranium	125	1.0	113.3	10.76	101	75	125				
Vanadium	217	1.0	113.3	98.21	104	75	125				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW6020**

Analysis Date: **12/13/18 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.1	1.9	110.1	2.08	45	75	125	52.46	0.6	20	S
Arsenic	429	1.0	110.1	317.3	102	75	125	429.3	0.0	20	
Beryllium	50.7	1.0	55.05	0.8194	91	75	125	53.27	5.0	20	
Cadmium	77.1	1.0	55.05	21.02	102	75	125	79.88	3.5	20	
Calcium	18200	960	5505	12470	104	75	125	18730	3.1	20	E
Chromium	184	1.3	110.1	66.36	107	75	125	183.5	0.3	20	
Cobalt	131	2.1	110.1	17.2	103	75	125	134.8	3.2	20	
Lead	749	1.0	110.1	668.1		75	125	759.2	1.3	20	A
Molybdenum	126	1.0	110.1	16.33	99	75	125	132.4	5.2	20	
Nickel	147	1.0	110.1	30.47	106	75	125	147.6	0.5	20	
Selenium	113	1.0	110.1	1.837	101	75	125	117.9	3.9	20	
Silver	68.3	1.0	55.05	8.977	108	75	125	70.78	3.6	20	
Uranium	118	1.0	110.1	10.76	97	75	125	125	5.7	20	
Vanadium	214	1.0	110.1	98.21	105	75	125	216.6	1.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW6020**

Analysis Date: **12/13/18 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 87** SampType: **Serial Dilution** Lab ID: **H18110573-007ADIL** Method: **SW6020**

Analysis Date: **12/13/18 13:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	8.6		0		0	0	0		10	
Arsenic	48.2	2.0		0		0	0	48.41	0.5	10	
Beryllium	ND	3.0		0		0	0	0.7746		10	
Cadmium	1.36	1.0		0		0	0	1.423		10	N
Calcium	14600	4400		0		0	0	14720		10	N
Chromium	97.0	6.2		0		0	0	97.56	0.6	10	
Cobalt	11.3	9.6		0		0	0	11.36		10	N
Lead	261	3.7		0		0	0	268	2.5	10	
Molybdenum	17.4	1.7		0		0	0	17.5	0.3	10	
Nickel	46.6	3.8		0		0	0	46.65	0.2	10	
Selenium	ND	3.5		0		0	0	1.725		10	
Silver	ND	1.7		0		0	0	1.668		10	
Uranium	10.4	1.0		0		0	0	10.43	0.3	10	
Vanadium	106	3.7		0		0	0	106.3	0.1	10	

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 91** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-007APDS1** Method: **SW6020**

Analysis Date: **12/13/18 13:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	54.9	1.7	50.9	0	108	75	125				
Arsenic	98.4	1.0	50.9	48.41	98	75	125				
Beryllium	45.0	1.0	50.9	0.7746	87	75	125				
Cadmium	53.5	1.0	50.9	1.423	102	75	125				
Calcium	15500	890	1018	14720		75	125				A
Chromium	146	1.2	50.9	97.56	96	75	125				
Cobalt	62.9	1.9	50.9	11.36	101	75	125				
Lead	316	1.0	50.9	268		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 91** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-007APDS1** Method: **SW6020**

Analysis Date: **12/13/18 13:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	69.7	1.0	50.9	17.5	103	75	125				
Nickel	98.4	1.0	50.9	46.65	102	75	125				
Selenium	52.4	1.0	50.9	1.725	100	75	125				
Silver	23.5	1.0	20.36	1.668	107	75	125				
Uranium	60.0	1.0	50.9	10.43	97	75	125				
Vanadium	156	1.0	50.9	106.3	98	75	125				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 92** SampType: **Sample Matrix Spike** Lab ID: **H18110573-007AMS** Method: **SW6020**

Analysis Date: **12/13/18 13:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.6	1.8	106.6	0	42	75	125				S
Arsenic	164	1.0	106.6	48.41	108	75	125				
Beryllium	48.6	1.0	53.3	0.7746	90	75	125				
Cadmium	58.7	1.0	53.3	1.423	107	75	125				
Calcium	20400	930	5330	14720	107	75	125				E
Chromium	219	1.3	106.6	97.56	114	75	125				
Cobalt	126	2.0	106.6	11.36	107	75	125				
Lead	418	1.0	106.6	268	140	75	125				S
Molybdenum	130	1.0	106.6	17.5	105	75	125				
Nickel	164	1.0	106.6	46.65	110	75	125				
Selenium	112	1.0	106.6	1.725	104	75	125				
Silver	61.0	1.0	53.3	1.668	111	75	125				
Uranium	124	1.0	106.6	10.43	106	75	125				
Vanadium	228	1.0	106.6	106.3	114	75	125				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 93** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-007AMSD** Method: **SW6020**

Analysis Date: **12/13/18 13:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	41.4	1.7	102.1	0	41	75	125	44.58	7.4	20	S
Arsenic	152	1.0	102.1	48.41	102	75	125	163.7	7.1	20	
Beryllium	46.6	1.0	51.05	0.7746	90	75	125	48.58	4.2	20	
Cadmium	56.1	1.0	51.05	1.423	107	75	125	58.69	4.4	20	
Calcium	23100	890	5105	14720	164	75	125	20400	12	20	SE
Chromium	214	1.2	102.1	97.56	114	75	125	219.2	2.5	20	
Cobalt	117	1.9	102.1	11.36	104	75	125	125.7	6.8	20	
Lead	406	1.0	102.1	268	135	75	125	417.7	2.9	20	S
Molybdenum	130	1.0	102.1	17.5	110	75	125	129.7	0.2	20	
Nickel	158	1.0	102.1	46.65	109	75	125	164.1	3.8	20	
Selenium	106	1.0	102.1	1.725	102	75	125	112.1	5.9	20	
Silver	57.9	1.0	51.05	1.668	110	75	125	61.03	5.3	20	
Uranium	115	1.0	102.1	10.43	102	75	125	123.8	7.3	20	
Vanadium	216	1.0	102.1	106.3	108	75	125	227.9	5.2	20	

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140268

Run ID :Run Order: **PHSC_101-H_181130A: 29** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **11/30/18 10:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **PHSC_101-H_181130A: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **11/30/18 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	**98**	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **PHSC_101-H_181130A: 33** SampType: **Sample Duplicate** Lab ID: **H18110557-001BDUP** Method: **A2320 B**

Analysis Date: **11/30/18 10:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	150	4.0		0				144.6	**1.7**	10	
Bicarbonate as HCO3	180	4.0		0				175.8	**1.8**	10	

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **PHSC_101-H_181130A: 55** SampType: **Sample Duplicate** Lab ID: **H18110573-002ADUP** Method: **A2320 B**

Analysis Date: **11/30/18 12:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	89	4.0		0				88.6	**0.5**	10	
Bicarbonate as HCO3	110	4.0		0				107.5	**0.5**	10	

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140315

Run ID :Run Order: **IC METROHM_181130A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**
Analysis Date: **11/30/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **IC METROHM_181130A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**
Analysis Date: **11/30/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	398	1.0	400	0	99	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **IC METROHM_181130A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**
Analysis Date: **11/30/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.2	1.0	25	0	105	90	110				
Sulfate	107	1.0	100	0	107	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **IC METROHM_181130A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**
Analysis Date: **11/30/18 16:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.6	1.0	50	0	101	90	110				
Sulfate	201	1.0	200	0	100	90	110				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **IC METROHM_181130A: 31** SampType: **Sample Matrix Spike** Lab ID: **H18110574-001AMS** Method: **E300.0**
Analysis Date: **11/30/18 19:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	54.4	1.0	25	28.81	102	90	110				
Sulfate	182	1.0	100	81.92	100	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140315

Run ID :Run Order: **IC METROHM_181130A: 31** SampType: **Sample Matrix Spike** Lab ID: **H18110574-001AMS** Method: **E300.0**

Analysis Date: **11/30/18 19:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **IC METROHM_181130A: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-001AMSD** Method: **E300.0**

Analysis Date: **11/30/18 19:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	54.3	1.0	25	28.81	**102**	90	110	54.4	**0.1**	20	
Sulfate	183	1.0	100	81.92	**101**	90	110	182.1	**0.2**	20	

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/03/18 11:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.801	0.10	0.8	0	100	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Potassium	39.5	1.0	40	0	99	95	105				
Sodium	39.4	1.0	40	0	98	95	105				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/03/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	95	105				
Calcium	24.8	1.0	25	0	99	95	105				
Magnesium	24.4	1.0	25	0	97	95	105				
Potassium	25.5	1.0	25	0	102	95	105				
Sodium	25.6	1.0	25	0	103	95	105				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/03/18 12:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00727	0.10		0		0	0				
Calcium	468	1.0	500	0	94	80	120				
Magnesium	520	1.0	500	0	104	80	120				
Potassium	-0.00455	1.0		0		0	0				
Sodium	0.00814	1.0		0		0	0				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/03/18 12:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.10	1	0	100	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/03/18 12:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	463	1.0	500	0	93	80	120				
Magnesium	516	1.0	500	0	103	80	120				
Potassium	20.0	1.0	20	0	100	80	120				
Sodium	20.1	1.0	20	0	100	80	120				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 14** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **12/03/18 12:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 15** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **12/03/18 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.959	0.10	1	0	96	85	115				
Calcium	48.5	1.0	50	0	97	85	115				
Magnesium	49.2	1.0	50	0	98	85	115				
Potassium	51.5	1.0	50	0	103	85	115				
Sodium	51.8	1.0	50	0	104	85	115				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	23.2	1.0	25	0	93	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 12:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	23.0	1.0	25	0	92	90	110				
Potassium	24.3	1.0	25	0	97	90	110				
Sodium	24.7	1.0	25	0	99	90	110				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 24** SampType: **Sample Matrix Spike** Lab ID: **H18110519-001BMS2** Method: **E200.7**

Analysis Date: **12/03/18 13:01** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	21.6	0.060	10	12.31	93	70	130				
Calcium	710	1.0	500	229.1	96	70	130				
Magnesium	654	1.4	500	153	100	70	130				
Potassium	539	1.0	500	26.52	102	70	130				
Sodium	5600	8.4	500	5004		70	130				A

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 25** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110519-001BMSD2** Method: **E200.7**

Analysis Date: **12/03/18 13:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	21.9	0.060	10	12.31	95	70	130	21.58	1.3	20	
Calcium	707	1.0	500	229.1	96	70	130	709.9	0.3	20	
Magnesium	650	1.4	500	153	99	70	130	654	0.6	20	
Potassium	543	1.0	500	26.52	103	70	130	538.6	0.8	20	
Sodium	5670	8.4	500	5004		70	130	5595	1.2	20	A

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	23.2	1.0	25	0	93	90	110				
Magnesium	23.0	1.0	25	0	92	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.9	1.0	25	0	104	90	110				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 39** SampType: **Sample Matrix Spike** Lab ID: **H18110574-003BMS2** Method: **E200.7**

Analysis Date: **12/03/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.990	0.050	1	0.06282	93	70	130				
Calcium	89.0	1.0	50	42.17	94	70	130				
Magnesium	60.0	1.0	50	11.49	97	70	130				
Potassium	56.9	1.0	50	5.534	103	70	130				
Sodium	81.0	1.0	50	29.43	103	70	130				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICP2-HE_181203B: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-003BMSD2** Method: **E200.7**

Analysis Date: **12/03/18 14:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.06282	96	70	130	0.9903	3.3	20	
Calcium	91.3	1.0	50	42.17	98	70	130	89.03	2.5	20	
Magnesium	62.0	1.0	50	11.49	101	70	130	60.01	3.2	20	
Potassium	56.8	1.0	50	5.534	102	70	130	56.85	0.1	20	
Sodium	80.4	1.0	50	29.43	102	70	130	80.97	0.7	20	

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 26** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.301	0.10	0.3	0	**100**	90	110				
Antimony	0.0595	0.050	0.06	0	**99**	90	110				
Arsenic	0.0611	0.0050	0.06	0	**102**	90	110				
Barium	0.0606	0.10	0.06	0	**101**	90	110				
Beryllium	0.0316	0.0010	0.03	0	**105**	90	110				
Cadmium	0.0307	0.0010	0.03	0	**102**	90	110				
Chromium	0.0609	0.010	0.06	0	**102**	90	110				
Cobalt	0.0621	0.010	0.06	0	**104**	90	110				
Copper	0.0621	0.010	0.06	0	**104**	90	110				
Iron	0.303	0.020	0.3	0	**101**	90	110				
Lead	0.0621	0.010	0.06	0	**104**	90	110				
Manganese	0.318	0.010	0.3	0	**106**	90	110				
Molybdenum	0.0590	0.0050	0.06	0	**98**	90	110				
Nickel	0.0625	0.010	0.06	0	**104**	90	110				
Selenium	0.0624	0.0050	0.06	0	**104**	90	110				
Silver	0.0308	0.0050	0.03	0	**103**	90	110				
Uranium	0.0591	0.00030	0.06	0	**98**	90	110				
Vanadium	0.0621	0.10	0.06	0	**104**	90	110				
Zinc	0.0621	0.010	0.06	0	**104**	90	110				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 27** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.2	0.10	40	0	**105**	70	130				
Antimony	0.000682	0.050		0							
Arsenic	0.000116	0.0050		0							
Barium	0.000128	0.10		0							
Beryllium	2.56E-05	0.0010		0							
Cadmium	0.000173	0.0010		0							
Chromium	0.00127	0.010		0							
Cobalt	2.27E-05	0.010		0							

Qualifiers:
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R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 27** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.000151	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	9.43E-05	0.010		0							
Manganese	0.000182	0.010		0							
Molybdenum	0.867	0.0050	0.8	0	108	70	130				
Nickel	0.000102	0.010		0							
Selenium	0.000116	0.0050		0							
Silver	7.86E-05	0.0050		0							
Uranium	2.66E-05	0.00030		0							
Vanadium	3.09E-05	0.10		0							
Zinc	0.000411	0.010		0							

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 28** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.9	0.10	40	0	107	70	130				
Antimony	0.000202	0.050		0		0	0				
Arsenic	0.0110	0.0050	0.01	0	110	70	130				
Barium	4.60E-05	0.10		0		0	0				
Beryllium	5.55E-05	0.0010		0		0	0				
Cadmium	0.0109	0.0010	0.01	0	109	70	130				
Chromium	0.0224	0.010	0.02	0	112	70	130				
Cobalt	0.0212	0.010	0.02	0	106	70	130				
Copper	0.0214	0.010	0.02	0	107	70	130				
Iron	104	0.020	100	0	104	70	130				
Lead	7.60E-05	0.010		0		0	0				
Manganese	0.0216	0.010	0.02	0	108	70	130				
Molybdenum	0.881	0.0050	0.8	0	110	70	130				
Nickel	0.0213	0.010	0.02	0	107	70	130				
Selenium	0.0105	0.0050	0.01	0	105	70	130				
Silver	0.0214	0.0050	0.02	0	107	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 28** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	9.03E-06	0.00030		0		0	0				
Vanadium	0.0215	0.10	0.02	0	107	70	130				
Zinc	0.0110	0.010	0.01	0	110	70	130				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 144** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 15:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.312	0.10	0.3	0	104	90	110				
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0630	0.0050	0.06	0	105	90	110				
Barium	0.0611	0.10	0.06	0	102	90	110				
Beryllium	0.0303	0.0010	0.03	0	101	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0631	0.010	0.06	0	105	90	110				
Cobalt	0.0632	0.010	0.06	0	105	90	110				
Copper	0.0634	0.010	0.06	0	106	90	110				
Iron	0.310	0.020	0.3	0	103	90	110				
Lead	0.0631	0.010	0.06	0	105	90	110				
Manganese	0.323	0.010	0.3	0	108	90	110				
Molybdenum	0.0585	0.0050	0.06	0	98	90	110				
Nickel	0.0641	0.010	0.06	0	107	90	110				
Selenium	0.0627	0.0050	0.06	0	104	90	110				
Silver	0.0305	0.0050	0.03	0	102	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				
Vanadium	0.0629	0.10	0.06	0	105	90	110				
Zinc	0.0646	0.010	0.06	0	108	90	110				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 145** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 15:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.4	0.10	40	0	106	70	130				
Antimony	0.000675	0.050		0							
Arsenic	9.86E-05	0.0050		0							
Barium	0.000131	0.10		0							
Beryllium	-1.00E-06	0.0010		0							
Cadmium	0.000164	0.0010		0							
Chromium	0.00134	0.010		0							
Cobalt	2.02E-05	0.010		0							
Copper	0.000169	0.010		0							
Iron	105	0.020	100	0	105	70	130				
Lead	7.29E-05	0.010		0							
Manganese	0.000204	0.010		0							
Molybdenum	0.856	0.0050	0.8	0	107	70	130				
Nickel	0.000122	0.010		0							
Selenium	9.78E-05	0.0050		0							
Silver	8.02E-05	0.0050		0							
Uranium	3.02E-05	0.00030		0							
Vanadium	4.27E-05	0.10		0							
Zinc	0.000438	0.010		0							

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 146** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 15:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.2	0.10	40	0	110	70	130				
Antimony	0.000198	0.050		0		0	0				
Arsenic	0.0111	0.0050	0.01	0	111	70	130				
Barium	5.22E-05	0.10		0		0	0				
Beryllium	1.59E-05	0.0010		0		0	0				
Cadmium	0.0107	0.0010	0.01	0	107	70	130				
Chromium	0.0230	0.010	0.02	0	115	70	130				
Cobalt	0.0214	0.010	0.02	0	107	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 146** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 15:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0214	0.010	0.02	0	107	70	130				
Iron	105	0.020	100	0	105	70	130				
Lead	5.76E-05	0.010		0		0	0				
Manganese	0.0219	0.010	0.02	0	109	70	130				
Molybdenum	0.866	0.0050	0.8	0	108	70	130				
Nickel	0.0217	0.010	0.02	0	109	70	130				
Selenium	0.0106	0.0050	0.01	0	106	70	130				
Silver	0.0211	0.0050	0.02	0	106	70	130				
Uranium	5.29E-06	0.00030		0		0	0				
Vanadium	0.0216	0.10	0.02	0	108	70	130				
Zinc	0.0110	0.010	0.01	0	110	70	130				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 160** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.297	0.10	0.3	0	99	90	110				
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0611	0.0050	0.06	0	102	90	110				
Barium	0.0613	0.10	0.06	0	102	90	110				
Beryllium	0.0307	0.0010	0.03	0	102	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0615	0.010	0.06	0	103	90	110				
Cobalt	0.0621	0.010	0.06	0	103	90	110				
Copper	0.0630	0.010	0.06	0	105	90	110				
Iron	0.307	0.020	0.3	0	102	90	110				
Lead	0.0618	0.010	0.06	0	103	90	110				
Manganese	0.316	0.010	0.3	0	105	90	110				
Molybdenum	0.0584	0.0050	0.06	0	97	90	110				
Nickel	0.0630	0.010	0.06	0	105	90	110				
Selenium	0.0623	0.0050	0.06	0	104	90	110				
Silver	0.0305	0.0050	0.03	0	102	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 160** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0585	0.00030	0.06	0	**98**	90	110				
Vanadium	0.0617	0.10	0.06	0	**103**	90	110				
Zinc	0.0630	0.010	0.06	0	**105**	90	110				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 161** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.9	0.10	40	0	**105**	70	130				
Antimony	0.000696	0.050		0							
Arsenic	0.000113	0.0050		0							
Barium	0.000139	0.10		0							
Beryllium	4.24E-05	0.0010		0							
Cadmium	0.000170	0.0010		0							
Chromium	0.00128	0.010		0							
Cobalt	2.23E-05	0.010		0							
Copper	0.000163	0.010		0							
Iron	103	0.020	100	0	**103**	70	130				
Lead	7.34E-05	0.010		0							
Manganese	0.000244	0.010		0							
Molybdenum	0.873	0.0050	0.8	0	**109**	70	130				
Nickel	9.48E-05	0.010		0							
Selenium	7.72E-05	0.0050		0							
Silver	8.61E-05	0.0050		0							
Uranium	3.10E-05	0.00030		0							
Vanadium	3.99E-05	0.10		0							
Zinc	0.000427	0.010		0							

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 162** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 16:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.0	0.10	40	0	**110**	70	130				
Antimony	0.000228	0.050		0		0	0				
Arsenic	0.0113	0.0050	0.01	0	**113**	70	130				
Barium	5.61E-05	0.10		0		0	0				
Beryllium	4.33E-05	0.0010		0		0	0				
Cadmium	0.0111	0.0010	0.01	0	**111**	70	130				
Chromium	0.0230	0.010	0.02	0	**115**	70	130				
Cobalt	0.0218	0.010	0.02	0	**109**	70	130				
Copper	0.0219	0.010	0.02	0	**110**	70	130				
Iron	107	0.020	100	0	**107**	70	130				
Lead	5.74E-05	0.010		0		0	0				
Manganese	0.0223	0.010	0.02	0	**112**	70	130				
Molybdenum	0.920	0.0050	0.8	0	**115**	70	130				
Nickel	0.0222	0.010	0.02	0	**111**	70	130				
Selenium	0.0107	0.0050	0.01	0	**107**	70	130				
Silver	0.0219	0.0050	0.02	0	**109**	70	130				
Uranium	8.93E-06	0.00030		0		0	0				
Vanadium	0.0222	0.10	0.02	0	**111**	70	130				
Zinc	0.0110	0.010	0.01	0	**110**	70	130				

Associated samples: **H18110573-001B, H18110573-001C, H18110573-002B, H18110573-002C, H18110573-003B, H18110573-003C, H18110573-004B, H18110573-004C**

Run ID :Run Order: **ICPMS205-H_181204A: 167** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/04/18 16:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 167** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/04/18 16:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICPMS205-H_181204A: 168** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **12/04/18 16:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.10	0.05	0	102	85	115				
Antimony	0.0516	0.050	0.05	0	103	85	115				
Arsenic	0.0502	0.0050	0.05	0	100	85	115				
Barium	0.0504	0.10	0.05	0	101	85	115				
Beryllium	0.0517	0.0010	0.05	0	103	85	115				
Cadmium	0.0509	0.0010	0.05	0	102	85	115				
Chromium	0.0503	0.010	0.05	0	101	85	115				
Cobalt	0.0509	0.010	0.05	0	102	85	115				
Copper	0.0518	0.010	0.05	0	104	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0500	0.010	0.05	0	100	85	115				
Manganese	0.0514	0.010	0.05	0	103	85	115				
Molybdenum	0.0484	0.0050	0.05	0	97	85	115				
Nickel	0.0514	0.010	0.05	0	103	85	115				
Selenium	0.0516	0.0050	0.05	0	103	85	115				
Silver	0.0204	0.0050	0.02	0	102	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 168** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **12/04/18 16:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0483	0.00030	0.05	0	**97**	85	115				
Vanadium	0.0503	0.10	0.05	0	**101**	85	115				
Zinc	0.0521	0.010	0.05	0	**104**	85	115				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Run ID :Run Order: **ICPMS205-H_181204A: 182** SampType: **Sample Matrix Spike** Lab ID: **H18110515-002BMS** Method: **E200.8**

Analysis Date: **12/04/18 16:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0508	0.030	0.05	0	**102**	70	130				
Antimony	0.0515	0.0010	0.05	0	**103**	70	130				
Arsenic	0.0497	0.0010	0.05	0	**99**	70	130				
Barium	0.0517	0.050	0.05	0.001272	**101**	70	130				
Beryllium	0.0535	0.0010	0.05	0	**107**	70	130				
Cadmium	0.0506	0.0010	0.05	0	**101**	70	130				
Chromium	0.0492	0.0050	0.05	0	**98**	70	130				
Cobalt	0.0497	0.0050	0.05	0	**99**	70	130				
Copper	0.0511	0.0050	0.05	0	**102**	70	130				
Iron	0.157	0.020	0.15	0.01265	**96**	70	130				
Lead	0.0504	0.0010	0.05	0	**101**	70	130				
Manganese	0.0501	0.0010	0.05	0	**100**	70	130				
Molybdenum	0.0484	0.0010	0.05	0	**97**	70	130				
Nickel	0.0498	0.0050	0.05	0	**100**	70	130				
Selenium	0.0504	0.0010	0.05	0	**101**	70	130				
Silver	0.0202	0.0010	0.02	0	**101**	70	130				
Uranium	0.0490	0.00030	0.05	0	**98**	70	130				
Vanadium	0.0490	0.010	0.05	0	**98**	70	130				
Zinc	0.0579	0.010	0.05	0.00776	**100**	70	130				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 183** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110515-002BMSD** Method: **E200.8**

Analysis Date: **12/04/18 16:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.030	0.05	0	**103**	70	130	0.05081	**1.5**	20	
Antimony	0.0530	0.0010	0.05	0	**106**	70	130	0.05149	**2.8**	20	
Arsenic	0.0515	0.0010	0.05	0	**103**	70	130	0.04972	**3.4**	20	
Barium	0.0529	0.050	0.05	0.001272	**103**	70	130	0.05167	**2.3**	20	
Beryllium	0.0510	0.0010	0.05	0	**102**	70	130	0.05353	**4.7**	20	
Cadmium	0.0522	0.0010	0.05	0	**104**	70	130	0.0506	**3.2**	20	
Chromium	0.0516	0.0050	0.05	0	**103**	70	130	0.04919	**4.8**	20	
Cobalt	0.0521	0.0050	0.05	0	**104**	70	130	0.04973	**4.7**	20	
Copper	0.0529	0.0050	0.05	0	**106**	70	130	0.05108	**3.5**	20	
Iron	0.165	0.020	0.15	0.01265	**101**	70	130	0.1567	**4.9**	20	
Lead	0.0502	0.0010	0.05	0	**100**	70	130	0.05043	**0.5**	20	
Manganese	0.0522	0.0010	0.05	0	**104**	70	130	0.05011	**4.2**	20	
Molybdenum	0.0496	0.0010	0.05	0	**99**	70	130	0.0484	**2.5**	20	
Nickel	0.0519	0.0050	0.05	0	**104**	70	130	0.04984	**4.1**	20	
Selenium	0.0507	0.0010	0.05	0	**101**	70	130	0.05038	**0.6**	20	
Silver	0.0208	0.0010	0.02	0	**104**	70	130	0.02025	**2.9**	20	
Uranium	0.0487	0.00030	0.05	0	**97**	70	130	0.04901	**0.7**	20	
Vanadium	0.0511	0.010	0.05	0	**102**	70	130	0.04903	**4.2**	20	
Zinc	0.0609	0.010	0.05	0.00776	**106**	70	130	0.05793	**5.0**	20	

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140373

Run ID :Run Order: **ICP2-HE_181204B: 15** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/04/18 11:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.816	0.10	0.8	0	102	95	105				
Calcium	40.4	1.0	40	0	101	95	105				
Magnesium	40.6	1.0	40	0	102	95	105				
Potassium	40.2	1.0	40	0	100	95	105				
Sodium	40.1	1.0	40	0	100	95	105				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 16** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/04/18 11:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	102	95	105				
Calcium	25.4	1.0	25	0	102	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.8	1.0	25	0	103	95	105				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 19** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/04/18 11:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	-0.00211	0.10		0		0	0				
Calcium	464	1.0	500	0	93	80	120				
Magnesium	519	1.0	500	0	104	80	120				
Potassium	-0.0160	1.0		0		0	0				
Sodium	0.0217	1.0		0		0	0				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 20** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/04/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.10	1	0	102	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140373

Run ID :Run Order: **ICP2-HE_181204B: 20** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/04/18 11:46** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	460	1.0	500	0	92	80	120				
Magnesium	517	1.0	500	0	103	80	120				
Potassium	21.1	1.0	20	0	106	80	120				
Sodium	21.5	1.0	20	0	107	80	120				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 27** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/04/18 13:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.54	0.10	2.5	0	102	90	110				
Calcium	25.4	1.0	25	0	102	90	110				
Magnesium	24.9	1.0	25	0	100	90	110				
Potassium	24.9	1.0	25	0	100	90	110				
Sodium	25.0	1.0	25	0	100	90	110				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Run ID :Run Order: **ICP2-HE_181204B: 39** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/04/18 14:33** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	102	90	110				
Calcium	25.1	1.0	25	0	100	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.6	1.0	25	0	102	90	110				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140405

Run ID :Run Order: **HGCV202-H_181205A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/05/18 10:27** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0982	0.0050	0.1	0	**98**	90	110				

Associated samples: **H18110573-001B, H18110573-002B, H18110573-003B, H18110573-004B, H18110573-004C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140449

Run ID :Run Order: **FIA203-HE_181206D: 8** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **12/06/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181206D: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **12/06/18 14:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.5	0.40	10.3	0	102	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181206D: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **12/06/18 14:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.990	0.050	1	0	99	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181206D: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **12/06/18 14:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.506	0.050	0.5	0	101	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181206D: 32** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004DMS** Method: **E350.1**
Analysis Date: **12/06/18 14:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.981	0.050	1	0	98	80	120				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140449

Run ID :Run Order: **FIA203-HE_181206D: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-004DMSD** Method: **E350.1**

Analysis Date: **12/06/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.980	0.050	1	0	**98**	80	120	0.9814	**0.1**	10	

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140454

Run ID :Run Order: **HGCV202-H_181206A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/06/18 12:06** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0997	0.0050	0.1	0	**100**	90	110				

Associated samples: **H18110573-001C, H18110573-002C, H18110573-003C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140480

Run ID :Run Order: **FIA203-HE_181207B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **12/07/18 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.961	0.010	1	0	96	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181207B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **12/07/18 11:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181207B: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **12/07/18 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.951	0.011	1	0	95	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181207B: 13** SampType: **Sample Duplicate** Lab ID: **H18120131-001ADUP** Method: **E353.2**
Analysis Date: **12/07/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	11.3	0.10		0				10.93	3.2	10	

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Run ID :Run Order: **FIA203-HE_181207B: 15** SampType: **Sample Matrix Spike** Lab ID: **H18110571-001BMS** Method: **E353.2**
Analysis Date: **12/07/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0.03781	98	90	110				

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140480

Run ID :Run Order: **FIA203-HE_181207B: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110571-001BMSD** Method: **E353.2**

Analysis Date: **12/07/18 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.958	0.011	1	0.03781	**92**	90	110	1.017	**6.0**	10	

Associated samples: **H18110573-001D, H18110573-002D, H18110573-003D, H18110573-004D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140510

Run ID :Run Order: **HGCV201-H_181210A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **12/10/18 10:48** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00099	0.50	0.001	0	**99**	90	110				

Associated samples: **H18110573-007A, H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140526

Run ID :Run Order: **ICPMS205-H_181210B: 26** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **12/10/18 12:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0609	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0626	0.0010	0.06	0	**104**	90	110				
Beryllium	0.0310	0.0010	0.03	0	**103**	90	110				
Cadmium	0.0312	0.0010	0.03	0	**104**	90	110				
Calcium	2.92	0.14	3	0	**97**	90	110				
Chromium	0.0621	0.0010	0.06	0	**104**	90	110				
Cobalt	0.0629	0.0010	0.06	0	**105**	90	110				
Lead	0.0622	0.0010	0.06	0	**104**	90	110				
Molybdenum	0.0592	0.0010	0.06	0	**99**	90	110				
Nickel	0.0641	0.0010	0.06	0	**107**	90	110				
Selenium	0.0606	0.0010	0.06	0	**101**	90	110				
Silver	0.0313	0.0010	0.03	0	**104**	90	110				
Uranium	0.0589	0.00030	0.06	0	**98**	90	110				
Vanadium	0.0631	0.0010	0.06	0	**105**	90	110				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 27** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **12/10/18 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000581	0.0010		0							
Arsenic	8.53E-05	0.0010		0							
Beryllium	0.000108	0.0010		0							
Cadmium	0.000150	0.0010		0							
Calcium	114	0.14	120	0	**95**	70	130				
Chromium	0.00123	0.0010		0							
Cobalt	-0.000138	0.0010		0							
Lead	4.22E-05	0.0010		0							
Molybdenum	0.806	0.0010	0.8	0	**101**	70	130				
Nickel	7.03E-05	0.0010		0		0	0				
Selenium	6.88E-05	0.0010		0							
Silver	0.000357	0.0010		0							
Uranium	2.14E-05	0.00030		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140526

Run ID :Run Order: **ICPMS205-H_181210B: 27** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **12/10/18 12:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	1.71E-05	0.0010		0		0	0				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICPMS205-H_181210B: 28** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **12/10/18 13:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000188	0.0010		0		0	0				
Arsenic	0.0105	0.0010	0.01	0	105	70	130				
Beryllium	8.16E-05	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	102	70	130				
Calcium	114	0.14	120	0	95	70	130				
Chromium	0.0212	0.0010	0.02	0	106	70	130				
Cobalt	0.0200	0.0010	0.02	0	100	70	130				
Lead	-1.00E-05	0.0010		0		0	0				
Molybdenum	0.836	0.0010	0.8	0	104	70	130				
Nickel	0.0202	0.0010	0.02	0	101	70	130				
Selenium	0.00974	0.0010	0.01	0	97	70	130				
Silver	0.0199	0.0010	0.02	0	99	70	130				
Uranium	8.46E-06	0.00030		0		0	0				
Vanadium	0.0201	0.0010	0.02	0	101	70	130				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140528

Run ID :Run Order: **ICP2-HE_181210B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/10/18 12:36** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.04	0.10	4	0	**101**	90	110				
Barium	0.790	0.10	0.8	0	**99**	90	110				
Boron	0.787	0.10	0.8	0	**98**	90	110				
Copper	0.796	0.012	0.8	0	**99**	90	110				
Iron	4.00	0.030	4	0	**100**	90	110				
Lead	0.805	0.050	0.8	0	**101**	90	110				
Manganese	3.99	0.010	4	0	**100**	90	110				
Zinc	0.796	0.010	0.8	0	**100**	90	110				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/10/18 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	552	0.10	500	0	**110**	80	120				
Barium	-0.000170	0.10		0		0	0				
Boron	0.00530	0.10		0		0	0				
Copper	-0.00850	0.012		0		0	0				
Iron	176	0.030	200	0	**88**	80	120				
Lead	0.0421	0.050		0		0	0				
Manganese	-0.0163	0.010		0		0	0				
Zinc	0.00735	0.010		0		0	0				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Run ID :Run Order: **ICP2-HE_181210B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/10/18 12:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	552	0.10	500	0	**110**	80	120				
Barium	0.522	0.10	0.5	0	**104**	80	120				
Boron	1.01	0.10	1	0	**101**	80	120				
Copper	0.540	0.012	0.5	0	**108**	80	120				
Iron	180	0.030	200	0	**90**	80	120				
Lead	0.941	0.050	1	0	**94**	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140528

Run ID :Run Order: **ICP2-HE_181210B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/10/18 12:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.456	0.010	0.5	0	**91**	80	120				
Zinc	1.00	0.010	1	0	**100**	80	120				

Associated samples: **H18110573-008A, H18110573-009A, H18110573-011A, H18110573-012A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140560

Run ID :Run Order: **ICP2-HE_181211B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/11/18 13:32** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.12	0.030	4	0	103	90	110				
Manganese	4.10	0.010	4	0	103	90	110				

Associated samples: **H18110573-011A**

Run ID :Run Order: **ICP2-HE_181211B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/11/18 13:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	187	0.030	200	0	94	80	120				
Manganese	-0.0200	0.010		0		0	0				

Associated samples: **H18110573-011A**

Run ID :Run Order: **ICP2-HE_181211B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/11/18 13:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	193	0.030	200	0	97	80	120				
Manganese	0.484	0.010	0.5	0	97	80	120				

Associated samples: **H18110573-011A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140580

Run ID :Run Order: **HGCV201-H_181212A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **12/12/18 09:36** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00096	0.50	0.001	0	**96**	90	110				

Associated samples: **H18110573-010A**

Run ID :Run Order: **HGCV201-H_181212A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 09:38** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**101**	90	110				

Associated samples: **H18110573-010A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140605

Run ID :Run Order: **ICP2-HE_181212B: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/12/18 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	**100**	90	110				
Barium	0.792	0.10	0.8	0	**99**	90	110				
Boron	0.786	0.10	0.8	0	**98**	90	110				
Copper	0.790	0.012	0.8	0	**99**	90	110				
Iron	3.97	0.030	4	0	**99**	90	110				
Manganese	3.97	0.010	4	0	**99**	90	110				
Zinc	0.786	0.010	0.8	0	**98**	90	110				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/12/18 09:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	531	0.10	500	0	**106**	80	120				
Barium	-0.000140	0.10		0		0	0				
Boron	0.00687	0.10		0		0	0				
Copper	-0.00507	0.012		0		0	0				
Iron	185	0.030	200	0	**93**	80	120				
Manganese	-0.0227	0.010		0		0	0				
Zinc	0.00677	0.010		0		0	0				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICP2-HE_181212B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/12/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536	0.10	500	0	**107**	80	120				
Barium	0.510	0.10	0.5	0	**102**	80	120				
Boron	1.04	0.10	1	0	**104**	80	120				
Copper	0.515	0.012	0.5	0	**103**	80	120				
Iron	186	0.030	200	0	**93**	80	120				
Manganese	0.465	0.010	0.5	0	**93**	80	120				
Zinc	1.03	0.010	1	0	**103**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140605

Run ID :Run Order: **ICP2-HE_181212B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/12/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-005A, H18110573-006A, H18110573-010A, H18110573-013A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140612

Run ID :Run Order: **ICPMS205-H_181213B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **12/13/18 10:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0606	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0625	0.0010	0.06	0	**104**	90	110				
Beryllium	0.0311	0.0010	0.03	0	**104**	90	110				
Cadmium	0.0311	0.0010	0.03	0	**104**	90	110				
Calcium	2.99	0.14	3	0	**100**	90	110				
Chromium	0.0626	0.0010	0.06	0	**104**	90	110				
Cobalt	0.0632	0.0010	0.06	0	**105**	90	110				
Lead	0.0625	0.0010	0.06	0	**104**	90	110				
Molybdenum	0.0599	0.0010	0.06	0	**100**	90	110				
Nickel	0.0644	0.0010	0.06	0	**107**	90	110				
Selenium	0.0614	0.0010	0.06	0	**102**	90	110				
Silver	0.0313	0.0010	0.03	0	**104**	90	110				
Uranium	0.0603	0.00030	0.06	0	**101**	90	110				
Vanadium	0.0623	0.0010	0.06	0	**104**	90	110				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **12/13/18 10:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000645	0.0010		0							
Arsenic	9.36E-05	0.0010		0							
Beryllium	-4.72E-05	0.0010		0							
Cadmium	0.000163	0.0010		0							
Calcium	114	0.14	120	0	**95**	70	130				
Chromium	0.00120	0.0010		0							
Cobalt	-1.89E-05	0.0010		0							
Lead	2.23E-05	0.0010		0							
Molybdenum	0.837	0.0010	0.8	0	**105**	70	130				
Nickel	0.000101	0.0010		0		0	0				
Selenium	5.84E-05	0.0010		0							
Silver	0.000314	0.0010		0							
Uranium	2.85E-05	0.00030		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140612

Run ID :Run Order: **ICPMS205-H_181213B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **12/13/18 10:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	2.97E-05	0.0010		0		0	0				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Run ID :Run Order: **ICPMS205-H_181213B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **12/13/18 11:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000202	0.0010		0		0	0				
Arsenic	0.0102	0.0010	0.01	0	102	70	130				
Beryllium	4.52E-07	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	102	70	130				
Calcium	117	0.14	120	0	98	70	130				
Chromium	0.0208	0.0010	0.02	0	104	70	130				
Cobalt	0.0198	0.0010	0.02	0	99	70	130				
Lead	1.04E-05	0.0010		0		0	0				
Molybdenum	0.833	0.0010	0.8	0	104	70	130				
Nickel	0.0199	0.0010	0.02	0	100	70	130				
Selenium	0.0100	0.0010	0.01	0	100	70	130				
Silver	0.0199	0.0010	0.02	0	100	70	130				
Uranium	1.06E-05	0.00030		0		0	0				
Vanadium	0.0195	0.0010	0.02	0	97	70	130				

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-010A, H18110573-013A**

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140628

Run ID :Run Order: **ICP2-HE_181213B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/13/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	102	90	110				
Barium	0.801	0.10	0.8	0	100	90	110				
Boron	0.786	0.10	0.8	0	98	90	110				
Copper	0.800	0.012	0.8	0	100	90	110				
Iron	4.07	0.030	4	0	102	90	110				
Manganese	4.03	0.010	4	0	101	90	110				
Zinc	0.793	0.010	0.8	0	99	90	110				

Associated samples: **H18110573-007A**

Run ID :Run Order: **ICP2-HE_181213B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/13/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	541	0.10	500	0	108	80	120				
Barium	0.000200	0.10		0		0	0				
Boron	0.00504	0.10		0		0	0				
Copper	0.00527	0.012		0		0	0				
Iron	184	0.030	200	0	92	80	120				
Manganese	-0.0154	0.010		0		0	0				
Zinc	0.00571	0.010		0		0	0				

Associated samples: **H18110573-007A**

Run ID :Run Order: **ICP2-HE_181213B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/13/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	548	0.10	500	0	110	80	120				
Barium	0.518	0.10	0.5	0	104	80	120				
Boron	0.988	0.10	1	0	99	80	120				
Copper	0.520	0.012	0.5	0	104	80	120				
Iron	181	0.030	200	0	91	80	120				
Manganese	0.458	0.010	0.5	0	92	80	120				
Zinc	0.977	0.010	1	0	98	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140628

Run ID :Run Order: **ICP2-HE_181213B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/13/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110573-007A**

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140712

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 5** SampType: **Sample Duplicate** Lab ID: **H18110573-008ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	21.1	0.20		0				20.59	**2.3**	20	

Associated samples: **H18110573-005A, H18110573-006A, H18110573-007A, H18110573-008A, H18110573-009A, H18110573-010A, H18110573-011A, H18110573-012A, H18110573-013A, H18110573-014A, H18110573-015A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110573
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: TSS181130A

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 1** SampType: **Method Blank** Lab ID: **MB-1_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	87.0	10	100	0	**87**	80	120				

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 4** SampType: **Sample Duplicate** Lab ID: **H18110566-001ADUP** Method: **A2540 D**

Analysis Date: **11/30/18 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	248	40		0				248	**0.0**	5	

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Sample Duplicate** Lab ID: **H18110570-001ADUP** Method: **A2540 D**

Analysis Date: **11/30/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	66.0	20		0				66	**0.0**	5	

Associated samples: **H18110573-001A, H18110573-002A, H18110573-003A, H18110573-004A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18110573

Login completed by: Jessica C. Smith
Date Received: 11/30/2018
Reviewed by: BL2000\rtooke
Received by: RAT
Reviewed Date: 12/5/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Box 1 was received at 15.3 °C, Box 2 at 14.6 °C. No Ice. Cooler 1 was received at 0.0 °C, Cooler 2 at 0.0 °C, Cooler 3 at 0.2 °C, and Cooler 4 at 0.2 °C. On Ice. JCS 11/30/18

ENERGY
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 1

Account Information (Billing information)

Company/Name	NRDP/DOJ
Contact	Greg Mullen
Phone	(404) 442-0228
Mailing Address	1501 E. Lockey
City, State, Zip	Helena, MT 59620
Email	
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	28921

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight; sieve sediment samples SS-04 and SLAG-01 only for < 0.063 mm size class, analyze only for Total As, Cd, Cu, Pb and Zn

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C3	1 SS-01	11/29/18	1700	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B1 15.3
C4	2 SS-01 Duplicate	11/29/18	1700	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B2 14.6
C4	3 SS-05A	11/29/18	1530	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 0.0
C1	4 SS-15G	11/28/18	1400	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 0.0 TB
B1	5 SS-04	11/29/18	1630	1	S									✓			C3 0.2
B1	6 SLAG-01	11/29/18	1615	1	S									✓			C4 0.2
B1	7 SS-01	11/29/18	1700	1	S									✓			H18110573
B1	8 SS-05A	11/29/18	1530	1	S									✓			
B2	9 SS-15G	11/28/18	1400	1	S									✓			
	10																

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tannet Traxler	11/30/18 1031	Tannet Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Tooke	11/30/18 1031	Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	454, 21 29, 214	Y N C B	Y N	see cover °C	Y N covers Box	Y N cooler	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

December 19, 2018

MT DEQ-Federal Superfund
PO Box 200901
Helena, MT 59620-0901

Work Order: H18110574 Quote ID: H1526 - Silver Bow Monitoring

Project Name: Silver Bow Creek SSTOU Monitoring

Energy Laboratories Inc Helena MT received the following 61 samples for MT DEQ-Federal Superfund on 11/30/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H18110574-001	SS-06G	11/29/18 14:30	11/30/18	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Dissolved Mercury, Total Recoverable Hardness Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Suspended
H18110574-002	Field Blank #2 SS-07	11/29/18 13:30	11/30/18	Surface Water	Same As Above
H18110574-003	SS-07	11/29/18 13:45	11/30/18	Surface Water	Same As Above
H18110574-004	SS-08	11/29/18 12:45	11/30/18	Surface Water	Same As Above
H18110574-005	SS-10A	11/29/18 11:15	11/30/18	Surface Water	Same As Above
H18110574-006	SS-11C	11/29/18 9:45	11/30/18	Surface Water	Same As Above
H18110574-007	SS-11D	11/29/18 9:15	11/30/18	Surface Water	Same As Above
H18110574-008	SS-13	11/28/18 17:00	11/30/18	Surface Water	Same As Above
H18110574-009	SS-14	11/28/18 16:00	11/30/18	Surface Water	Same As Above
H18110574-010	SS-15A-2	11/28/18 14:30	11/30/18	Surface Water	Same As Above
H18110574-011	SS-15B	11/28/18 13:15	11/30/18	Surface Water	Same As Above
H18110574-012	SS-15B Duplicate	11/28/18 13:15	11/30/18	Surface Water	Same As Above
H18110574-013	SS-16B	11/28/18 11:30	11/30/18	Surface Water	Same As Above
H18110574-014	Field Blank #1 SS-17D	11/28/18 10:00	11/30/18	Surface Water	Same As Above
H18110574-015	SS-17D	11/28/18 10:15	11/30/18	Surface Water	Same As Above
H18110574-016	SS-19	11/28/18 9:00	11/30/18	Surface Water	Same As Above

ANALYTICAL SUMMARY REPORT

H18110574-017	SS-06G Sieve <0.063	11/29/18 14:30	11/30/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet Soil Preparation USDA1
H18110574-018	SS-06G Sieve 1mm-0.063mm	11/29/18 14:30	11/30/18	Sediment	Metals by ICP/ICPMS, Total Mercury in Solid By CVAA Percent Moisture Total Metals Digestion by SW3050B Mercury Digestion by SW7471B Sieve Analysis, Wet
H18110574-019	SS-06G Sieve 2mm-1mm	11/29/18 14:30	11/30/18	Sediment	Same As Above
H18110574-020	SS-07 Sieve <0.063	11/29/18 13:45	11/30/18	Sediment	Same As Above
H18110574-021	SS-07 Sieve 1mm-0.063mm	11/29/18 13:45	11/30/18	Sediment	Same As Above
H18110574-022	SS-07 Sieve 2mm-1mm	11/29/18 13:45	11/30/18	Sediment	Same As Above
H18110574-023	SS-07 Duplicate Sieve <0.063mm	11/29/18 13:45	11/30/18	Sediment	Same As Above
H18110574-024	SS-07 Duplicate Sieve 1mm-0.063mm	11/29/18 13:45	11/30/18	Sediment	Same As Above
H18110574-025	SS-07 Duplicate Sieve 2mm-1mm	11/29/18 13:45	11/30/18	Sediment	Same As Above
H18110574-026	SS-08 Sieve <0.063mm	11/29/18 12:45	11/30/18	Sediment	Same As Above
H18110574-027	SS-08 Sieve 1mm-0.0633mm	11/29/18 12:45	11/30/18	Sediment	Same As Above
H18110574-028	SS-08 Sieve 2mm-1mm	11/29/18 12:45	11/30/18	Sediment	Same As Above
H18110574-029	SS-10A Sieve <0.063mm	11/29/18 11:15	11/30/18	Sediment	Same As Above
H18110574-030	SS-10A Sieve 1mm-0.063mm	11/29/18 11:15	11/30/18	Sediment	Same As Above
H18110574-031	SS-10A Sieve 2mm-1mm	11/29/18 11:15	11/30/18	Sediment	Same As Above
H18110574-032	SS-11C Sieve <0.063mm	11/29/18 9:45	11/30/18	Sediment	Same As Above
H18110574-033	SS-11C Sieve 1mm-0.063mm	11/29/18 9:45	11/30/18	Sediment	Same As Above
H18110574-034	SS-11C Sieve 2mm-1mm	11/29/18 9:45	11/30/18	Sediment	Same As Above
H18110574-035	SS-11D Sieve <0.063mm	11/29/18 9:15	11/30/18	Sediment	Same As Above
H18110574-036	SS-11D Sieve 1mm-0.063mm	11/29/18 9:15	11/30/18	Sediment	Same As Above
H18110574-037	SS-11D Sieve 2mm-1mm	11/29/18 9:15	11/30/18	Sediment	Same As Above
H18110574-038	SS-13 Sieve <0.063mm	11/28/18 17:00	11/30/18	Sediment	Same As Above
H18110574-039	SS-13 Sieve 1mm-0.063mm	11/28/18 17:00	11/30/18	Sediment	Same As Above
H18110574-040	SS-13 Sieve 2mm-1mm	11/28/18 17:00	11/30/18	Sediment	Same As Above
H18110574-041	SS-14 Sieve <0.063mm	11/28/18 16:00	11/30/18	Sediment	Same As Above

ANALYTICAL SUMMARY REPORT

H18110574-042	SS-14 Sieve 1mm-0.063mm	11/28/18 16:00	11/30/18	Sediment	Same As Above
H18110574-043	SS-14 Sieve 2mm-1mm	11/28/18 16:00	11/30/18	Sediment	Same As Above
H18110574-044	SS-14 Duplicate Sieve <0.063mm	11/28/18 16:00	11/30/18	Sediment	Same As Above
H18110574-045	SS-14 Duplicate Sieve 1mm-0.063mm	11/28/18 16:00	11/30/18	Sediment	Same As Above
H18110574-046	SS-14 Duplicate Sieve 2mm-1mm	11/28/18 16:00	11/30/18	Sediment	Same As Above
H18110574-047	SS-15A-2 Sieve <0.063mm	11/28/18 14:30	11/30/18	Sediment	Same As Above
H18110574-048	SS-15A-2 Sieve 1mm-0.063mm	11/28/18 14:30	11/30/18	Sediment	Same As Above
H18110574-049	SS-15A-2 Sieve 2mm-1mm	11/28/18 14:30	11/30/18	Sediment	Same As Above
H18110574-050	SS-15B Sieve <0.063mm	11/28/18 13:15	11/30/18	Sediment	Same As Above
H18110574-051	SS-15B Sieve 1mm-0.063mm	11/28/18 13:15	11/30/18	Sediment	Same As Above
H18110574-052	SS-15B Sieve 2mm-1mm	11/28/18 13:15	11/30/18	Sediment	Same As Above
H18110574-053	SS-16B Sieve <0.063mm	11/28/18 11:30	11/30/18	Sediment	Same As Above
H18110574-054	SS-16B Sieve 1mm-0.063mm	11/28/18 11:30	11/30/18	Sediment	Same As Above
H18110574-055	SS-16B Sieve 2mm-1mm	11/28/18 11:30	11/30/18	Sediment	Same As Above
H18110574-056	SS-17D Sieve <0.063mm	11/28/18 10:15	11/30/18	Sediment	Same As Above
H18110574-057	SS-17D Sieve 1mm-0.063mm	11/28/18 10:15	11/30/18	Sediment	Same As Above
H18110574-058	SS-17D Sieve 2mm-1mm	11/28/18 10:15	11/30/18	Sediment	Same As Above
H18110574-059	SS-19 Sieve <0.063mm	11/28/18 9:15	11/30/18	Sediment	Same As Above
H18110574-060	SS-19 Sieve 1mm-0.063mm	11/28/18 9:15	11/30/18	Sediment	Same As Above
H18110574-061	SS-19 Sieve 2mm-1mm	11/28/18 9:15	11/30/18	Sediment	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-001
Collection Date: 11/29/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	10	mg/L		1	0.3	A2540 D	11/30/18 14:25 / cm			l24 (14410200)_181130B	11	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	96	mg/L		4	2	A2320 B	11/30/18 13:39 / SR			PHSC_101-H_181130A	61	R140268
Bicarbonate as HCO3	120	mg/L		4	2	A2320 B	11/30/18 13:39 / SR			PHSC_101-H_181130A	61	R140268
Chloride	29	mg/L		1	0.009	E300.0	11/30/18 19:24 / SR			IC METROHM_181130A	30	R140315
Sulfate	82	mg/L		1	0.01	E300.0	11/30/18 19:24 / SR			IC METROHM_181130A	30	R140315
Hardness as CaCO3	178	mg/L		1	1	A2340 B	12/06/18 09:14 / sld			WATERCALC_181206A	1	R140421
NUTRIENTS												
Nitrogen, Ammonia as N	0.02	mg/L	J	0.05	0.02	E350.1	12/06/18 14:50 / km			FIA203-HE_181206D	34	R140449
Nitrogen, Nitrate+Nitrite as N	1.10	mg/L		0.02	0.009	E353.2	12/07/18 11:25 / km			FIA203-HE_181207B	24	R140480
Nitrogen, Total	1.36	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:10 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	29	44016
Phosphorus, Total as P	0.096	mg/L		0.003	0.002	E365.1	12/04/18 09:50 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	35	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Antimony	0.00018	mg/L	J	0.0005	0.00009	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Barium	0.045	mg/L		0.003	0.00002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Boron	0.048	mg/L	J	0.1	0.006	E200.7	12/03/18 13:43 / sld			ICP2-HE_181203B	35	R140342
Cadmium	0.00006	mg/L		0.00003	0.00003	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Calcium	45	mg/L		1	0.07	E200.7	12/03/18 13:43 / sld			ICP2-HE_181203B	35	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Cobalt	0.00033	mg/L	J	0.01	0.00009	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Copper	0.004	mg/L		0.001	0.0001	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Iron	0.06	mg/L		0.02	0.002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Lead	0.00006	mg/L	J	0.0003	0.00003	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Magnesium	12	mg/L		1	0.1	E200.7	12/03/18 13:43 / sld			ICP2-HE_181203B	35	R140342
Manganese	0.236	mg/L		0.001	0.0003	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Mercury	0.0032	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:26 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	25	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Potassium	4	mg/L		1	0.06	E200.7	12/03/18 13:43 / sld			ICP2-HE_181203B	35	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-001
Collection Date: 11/29/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00015	mg/L	J	0.001	0.00002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Sodium	21	mg/L		1	0.02	E200.7	12/03/18 13:43 / sld			ICP2-HE_181203B	35	R140342
Uranium	0.0047	mg/L		0.0002	0.00001	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
Zinc	0.035	mg/L		0.008	0.0003	E200.8	12/04/18 16:46 / sld			ICPMS205-H_181204A	179	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.165	mg/L		0.009	0.003	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	72	43973
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Barium	0.047	mg/L		0.003	0.00009	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Boron	0.052	mg/L	J	0.1	0.005	E200.7	12/05/18 13:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	24	43973
Cadmium	0.00017	mg/L		0.00003	0.00003	E200.8	12/05/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	72	43973
Calcium	50	mg/L		1	0.09	E200.7	12/05/18 13:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	24	43973
Chromium	0.0005	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Cobalt	0.00045	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Copper	0.012	mg/L		0.001	0.0002	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Iron	0.63	mg/L		0.02	0.004	E200.8	12/05/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	72	43973
Lead	0.0020	mg/L		0.0003	0.00004	E200.8	12/05/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	72	43973
Magnesium	13	mg/L		1	0.2	E200.7	12/05/18 13:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	24	43973
Manganese	0.276	mg/L		0.001	0.0003	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Mercury	0.007	ug/L		0.005	0.0009	E245.1	12/06/18 12:42 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	15	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Potassium	4	mg/L		1	0.06	E200.7	12/05/18 13:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	24	43973
Selenium	0.00020	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Silver	0.000040	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Sodium	21	mg/L		1	0.03	E200.7	12/05/18 13:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	24	43973
Uranium	0.0050	mg/L		0.0002	9E-06	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Vanadium	0.0029	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973
Zinc	0.061	mg/L		0.008	0.001	E200.8	12/04/18 13:43 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	94	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-002
Collection Date: 11/29/18 13:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	11/30/18 14:25 / cm			l24 (14410200)_181130B	12	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	11/30/18 13:45 / SR			PHSC_101-H_181130A	63	R140268
Bicarbonate as HCO3	2	mg/L	J	4	2	A2320 B	11/30/18 13:45 / SR			PHSC_101-H_181130A	63	R140268
Chloride	0.016	mg/L	J	1	0.009	E300.0	11/30/18 20:49 / SR			IC METROHM_181130A	35	R140315
Sulfate	ND	mg/L		1	0.01	E300.0	11/30/18 20:49 / SR			IC METROHM_181130A	35	R140315
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	12/06/18 09:14 / sld			WATERCALC_181206A	2	R140421
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 14:51 / km			FIA203-HE_181206D	35	R140449
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	12/07/18 11:28 / km			FIA203-HE_181207B	27	R140480
Nitrogen, Total	ND	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:11 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	30	44016
Phosphorus, Total as P	ND	mg/L		0.003	0.002	E365.1	12/04/18 09:52 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	37	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Antimony	ND	mg/L		0.0005	0.00009	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Arsenic	ND	mg/L		0.001	0.00004	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Barium	0.0030	mg/L	J	0.003	0.00002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Boron	ND	mg/L		0.1	0.006	E200.7	12/03/18 13:47 / sld			ICP2-HE_181203B	36	R140342
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Calcium	0.07	mg/L	J	1	0.07	E200.7	12/03/18 13:47 / sld			ICP2-HE_181203B	36	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Cobalt	ND	mg/L		0.01	0.00009	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Copper	ND	mg/L		0.001	0.0001	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Iron	ND	mg/L		0.02	0.002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Lead	ND	mg/L		0.0003	0.00003	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Magnesium	ND	mg/L		1	0.01	E200.7	12/03/18 13:47 / sld			ICP2-HE_181203B	36	R140342
Manganese	ND	mg/L		0.001	0.0003	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Mercury	0.0023	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:32 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	27	43991
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Nickel	ND	mg/L		0.002	0.0002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Potassium	ND	mg/L		1	0.06	E200.7	12/03/18 13:47 / sld			ICP2-HE_181203B	36	R140342

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #2 SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-002
Collection Date: 11/29/18 13:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Sodium	0.03	mg/L	J	1	0.02	E200.7	12/03/18 13:47 / sld			ICP2-HE_181203B	36	R140342
Uranium	ND	mg/L		0.0002	0.00001	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Vanadium	ND	mg/L		0.1	0.00007	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
Zinc	0.016	mg/L		0.008	0.0003	E200.8	12/04/18 16:48 / sld			ICPMS205-H_181204A	180	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.003	mg/L	J	0.009	0.003	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Antimony	ND	mg/L		0.0005	0.0001	E200.8	12/05/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	73	43973
Arsenic	0.00005	mg/L	J	0.001	0.00004	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Barium	0.00020	mg/L	J	0.003	0.00009	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Boron	ND	mg/L		0.1	0.005	E200.7	12/05/18 13:33 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	25	43973
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/05/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	73	43973
Calcium	ND	mg/L		1	0.09	E200.7	12/05/18 13:33 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	25	43973
Chromium	ND	mg/L		0.01	0.0001	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Cobalt	ND	mg/L		0.01	0.00006	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Copper	ND	mg/L		0.001	0.0002	E200.8	12/05/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	73	43973
Iron	ND	mg/L		0.02	0.004	E200.8	12/05/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	73	43973
Lead	0.00008	mg/L	J	0.0003	0.00004	E200.8	12/05/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	73	43973
Magnesium	ND	mg/L		1	0.009	E200.7	12/05/18 13:33 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	25	43973
Manganese	ND	mg/L		0.001	0.0003	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Mercury	0.0021	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:35 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	28	43991
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Nickel	ND	mg/L		0.002	0.0001	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Potassium	ND	mg/L		1	0.06	E200.7	12/05/18 13:33 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	25	43973
Selenium	ND	mg/L		0.001	0.00005	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Silver	ND	mg/L		0.0002	9E-06	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Sodium	ND	mg/L		1	0.03	E200.7	12/05/18 13:33 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	25	43973
Uranium	ND	mg/L		0.0002	9E-06	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Vanadium	0.00019	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	12/04/18 13:45 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	95	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-003
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	8	mg/L		1	0.3	A2540 D	11/30/18 14:25 / cm			l24 (14410200)_181130B	: 13	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	100	mg/L		4	2	A2320 B	11/30/18 13:51 / SR			PHSC_101-H_181130A	: 65	R140268
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	11/30/18 13:51 / SR			PHSC_101-H_181130A	: 65	R140268
Chloride	36	mg/L		1	0.009	E300.0	11/30/18 21:03 / SR			IC METROHM_181130A	: 36	R140315
Sulfate	75	mg/L		1	0.01	E300.0	11/30/18 21:03 / SR			IC METROHM_181130A	: 36	R140315
Hardness as CaCO3	170	mg/L		1	1	A2340 B	12/06/18 09:14 / sld			WATERCALC_181206A	: 3	R140421
NUTRIENTS												
Nitrogen, Ammonia as N	0.03	mg/L	J	0.05	0.02	E350.1	12/06/18 14:52 / km			FIA203-HE_181206D	: 36	R140449
Nitrogen, Nitrate+Nitrite as N	1.52	mg/L		0.02	0.009	E353.2	12/07/18 11:30 / km			FIA203-HE_181207B	: 28	R140480
Nitrogen, Total	1.83	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:12 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	: 31	44016
Phosphorus, Total as P	0.079	mg/L		0.003	0.002	E365.1	12/04/18 09:54 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	: 38	43976
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Antimony	0.00022	mg/L	J	0.0005	0.00009	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Barium	0.041	mg/L		0.003	0.00002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Boron	0.063	mg/L	J	0.1	0.006	E200.7	12/03/18 13:51 / sld			ICP2-HE_181203B	: 37	R140342
Cadmium	0.00009	mg/L		0.00003	0.00003	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Calcium	42	mg/L		1	0.07	E200.7	12/03/18 13:51 / sld			ICP2-HE_181203B	: 37	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Cobalt	0.00026	mg/L	J	0.01	0.00009	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Copper	0.004	mg/L		0.001	0.0001	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Iron	0.06	mg/L		0.02	0.002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Lead	0.00010	mg/L	J	0.0003	0.00003	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Magnesium	11	mg/L		1	0.1	E200.7	12/03/18 13:51 / sld			ICP2-HE_181203B	: 37	R140342
Manganese	0.182	mg/L		0.001	0.0003	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Mercury	0.0034	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:45 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	: 31	43991
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	: 181	R140358
Potassium	6	mg/L		1	0.06	E200.7	12/03/18 13:51 / sld			ICP2-HE_181203B	: 37	R140342

Report Definitions:
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MCL - Maximum contaminant level.
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J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-003
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00012	mg/L	J	0.001	0.00002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	181	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	181	R140358
Sodium	29	mg/L		1	0.02	E200.7	12/03/18 13:51 / sld			ICP2-HE_181203B	37	R140342
Uranium	0.0040	mg/L		0.0002	0.00001	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	181	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	181	R140358
Zinc	0.053	mg/L		0.008	0.0003	E200.8	12/04/18 16:49 / sld			ICPMS205-H_181204A	181	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.132	mg/L		0.009	0.003	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	74	43973
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Barium	0.043	mg/L		0.003	0.00009	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Boron	0.066	mg/L	J	0.1	0.005	E200.7	12/05/18 13:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	26	43973
Cadmium	0.00016	mg/L		0.00003	0.00003	E200.8	12/05/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	74	43973
Calcium	47	mg/L		1	0.09	E200.7	12/05/18 13:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	26	43973
Chromium	0.0004	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Cobalt	0.00035	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Copper	0.011	mg/L		0.001	0.0002	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Iron	0.51	mg/L		0.02	0.004	E200.8	12/05/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	74	43973
Lead	0.0018	mg/L		0.0003	0.00004	E200.8	12/05/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	74	43973
Magnesium	13	mg/L		1	0.2	E200.7	12/05/18 13:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	26	43973
Manganese	0.210	mg/L		0.001	0.0003	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Mercury	0.008	ug/L		0.005	0.0009	E245.1	12/06/18 12:45 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	16	43991
Molybdenum	0.0049	mg/L	J	0.005	0.00002	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 13:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	26	43973
Selenium	0.00017	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Silver	0.000031	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Sodium	29	mg/L		1	0.03	E200.7	12/05/18 13:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	26	43973
Uranium	0.0043	mg/L		0.0002	9E-06	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Vanadium	0.0026	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973
Zinc	0.068	mg/L		0.008	0.001	E200.8	12/04/18 13:47 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	96	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-004
Collection Date: 11/29/18 12:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	12	mg/L		1	0.3	A2540 D	11/30/18 14:26 / cm			l24 (14410200)_181130B	14	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	11/30/18 13:57 / SR			PHSC_101-H_181130A	67	R140268
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	11/30/18 13:57 / SR			PHSC_101-H_181130A	67	R140268
Chloride	38	mg/L		1	0.009	E300.0	11/30/18 21:18 / SR			IC METROHM_181130A	37	R140315
Sulfate	88	mg/L		1	0.01	E300.0	11/30/18 21:18 / SR			IC METROHM_181130A	37	R140315
Hardness as CaCO3	187	mg/L		1	1	A2340 B	12/06/18 09:14 / sld			WATERCALC_181206A	4	R140421
NUTRIENTS												
Nitrogen, Ammonia as N	0.02	mg/L	J	0.05	0.02	E350.1	12/06/18 14:53 / km			FIA203-HE_181206D	37	R140449
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L		0.02	0.009	E353.2	12/07/18 11:31 / km			FIA203-HE_181207B	29	R140480
Nitrogen, Total	1.41	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:13 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	32	44016
Phosphorus, Total as P	0.091	mg/L		0.003	0.002	E365.1	12/04/18 09:57 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	41	43976
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Antimony	0.00029	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Barium	0.042	mg/L		0.003	0.00002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Boron	0.072	mg/L	J	0.1	0.006	E200.7	12/03/18 14:06 / sld			ICP2-HE_181203B	41	R140342
Cadmium	0.00015	mg/L		0.00003	0.00003	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Calcium	48	mg/L		1	0.07	E200.7	12/03/18 14:06 / sld			ICP2-HE_181203B	41	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Cobalt	0.00022	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Copper	0.006	mg/L		0.001	0.0001	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Iron	0.06	mg/L		0.02	0.002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Lead	0.00016	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Magnesium	13	mg/L		1	0.1	E200.7	12/03/18 14:06 / sld			ICP2-HE_181203B	41	R140342
Manganese	0.184	mg/L		0.001	0.0003	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Mercury	0.0046	ug/L	J	0.005	0.0009	E245.1	12/05/18 11:52 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	33	43991
Molybdenum	0.0049	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 14:06 / sld			ICP2-HE_181203B	41	R140342

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-004
Collection Date: 11/29/18 12:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00015	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Sodium	31	mg/L		1	0.02	E200.7	12/03/18 14:06 / sld			ICP2-HE_181203B	41	R140342
Uranium	0.0054	mg/L		0.0002	0.00001	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Vanadium	0.0016	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
Zinc	0.062	mg/L		0.008	0.0003	E200.8	12/04/18 17:03 / sld			ICPMS205-H_181204A	188	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.224	mg/L		0.009	0.003	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	75	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Barium	0.046	mg/L		0.003	0.00009	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Boron	0.072	mg/L	J	0.1	0.005	E200.7	12/05/18 13:40 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	27	43973
Cadmium	0.00037	mg/L		0.00003	0.00003	E200.8	12/05/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	75	43973
Calcium	52	mg/L		1	0.09	E200.7	12/05/18 13:40 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	27	43973
Chromium	0.0005	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Cobalt	0.00045	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Copper	0.017	mg/L		0.001	0.0002	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Iron	0.71	mg/L		0.02	0.004	E200.8	12/05/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	75	43973
Lead	0.0061	mg/L		0.0003	0.00004	E200.8	12/05/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	75	43973
Magnesium	14	mg/L		1	0.2	E200.7	12/05/18 13:40 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	27	43973
Manganese	0.266	mg/L		0.001	0.0003	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Mercury	0.022	ug/L		0.005	0.0009	E245.1	12/06/18 12:48 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	17	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Nickel	0.0011	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 13:40 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	27	43973
Selenium	0.00016	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Silver	0.000062	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Sodium	32	mg/L		1	0.03	E200.7	12/05/18 13:40 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	27	43973
Uranium	0.0062	mg/L		0.0002	9E-06	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Vanadium	0.0028	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973
Zinc	0.109	mg/L		0.008	0.001	E200.8	12/04/18 13:49 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	97	43973

Report Definitions:
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-005
Collection Date: 11/29/18 11:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	7	mg/L		1	0.3	A2540 D	11/30/18 14:26 / cm			l24 (14410200)_181130B	15	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	11/30/18 14:02 / SR			PHSC_101-H_181130A	69	R140268
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	11/30/18 14:02 / SR			PHSC_101-H_181130A	69	R140268
Chloride	39	mg/L		1	0.009	E300.0	11/30/18 21:32 / SR			IC METROHM_181130A	38	R140315
Sulfate	93	mg/L		1	0.01	E300.0	11/30/18 21:32 / SR			IC METROHM_181130A	38	R140315
Hardness as CaCO3	192	mg/L		1	1	A2340 B	12/06/18 09:14 / sld			WATERCALC_181206A	5	R140421
NUTRIENTS												
Nitrogen, Ammonia as N	0.03	mg/L	J	0.05	0.02	E350.1	12/06/18 14:55 / km			FIA203-HE_181206D	38	R140449
Nitrogen, Nitrate+Nitrite as N	1.16	mg/L		0.02	0.009	E353.2	12/07/18 11:32 / km			FIA203-HE_181207B	30	R140480
Nitrogen, Total	1.51	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:15 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	33	44016
Phosphorus, Total as P	0.078	mg/L		0.003	0.002	E365.1	12/04/18 09:58 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	42	43976
METALS, DISSOLVED												
Aluminum	0.014	mg/L		0.009	0.003	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Antimony	0.00026	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Arsenic	0.003	mg/L		0.001	0.00004	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Barium	0.043	mg/L		0.003	0.00002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Boron	0.072	mg/L	J	0.1	0.006	E200.7	12/03/18 14:09 / sld			ICP2-HE_181203B	42	R140342
Cadmium	0.00035	mg/L		0.00003	0.00003	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Calcium	49	mg/L		1	0.07	E200.7	12/03/18 14:09 / sld			ICP2-HE_181203B	42	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Cobalt	0.00021	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Copper	0.027	mg/L		0.001	0.0001	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Iron	0.06	mg/L		0.02	0.002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Lead	0.00020	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Magnesium	14	mg/L		1	0.1	E200.7	12/03/18 14:09 / sld			ICP2-HE_181203B	42	R140342
Manganese	0.169	mg/L		0.001	0.0003	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Mercury	0.0033	ug/L	J	0.005	0.0009	E245.1	12/05/18 12:04 / dck	12/04/18 08:55	E245.1	HGCV202-H_181205A	37	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 14:09 / sld			ICP2-HE_181203B	42	R140342

Report Definitions:
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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-005
Collection Date: 11/29/18 11:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00014	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Sodium	32	mg/L		1	0.02	E200.7	12/03/18 14:09 / sld			ICP2-HE_181203B	42	R140342
Uranium	0.0058	mg/L		0.0002	0.00001	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Vanadium	0.0014	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
Zinc	0.110	mg/L		0.008	0.0003	E200.8	12/04/18 17:05 / sld			ICPMS205-H_181204A	189	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.154	mg/L		0.009	0.003	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 13:51 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	76	43973
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Barium	0.043	mg/L		0.003	0.00009	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Boron	0.076	mg/L	J	0.1	0.005	E200.7	12/05/18 13:44 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	28	43973
Cadmium	0.00048	mg/L		0.00003	0.00003	E200.8	12/05/18 13:51 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	76	43973
Calcium	53	mg/L		1	0.09	E200.7	12/05/18 13:44 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	28	43973
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Cobalt	0.00032	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Copper	0.046	mg/L		0.001	0.0002	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Iron	0.40	mg/L		0.02	0.004	E200.8	12/05/18 13:51 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	76	43973
Lead	0.0023	mg/L		0.0003	0.00004	E200.8	12/05/18 13:51 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	76	43973
Magnesium	15	mg/L		1	0.2	E200.7	12/05/18 13:44 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	28	43973
Manganese	0.210	mg/L		0.001	0.0003	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Mercury	0.012	ug/L		0.005	0.0009	E245.1	12/06/18 12:52 / dck	12/04/18 08:55	E245.1	HGCV202-H_181206A	18	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Potassium	5	mg/L		1	0.06	E200.7	12/05/18 13:44 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	28	43973
Selenium	0.00018	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Silver	0.000030	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Sodium	32	mg/L		1	0.03	E200.7	12/05/18 13:44 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	28	43973
Uranium	0.0061	mg/L		0.0002	9E-06	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Vanadium	0.0022	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973
Zinc	0.138	mg/L		0.008	0.001	E200.8	12/04/18 13:50 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	98	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-006
Collection Date: 11/29/18 09:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	3	mg/L		1	0.3	A2540 D	11/30/18 14:26 / cm			l24 (14410200)_181130B	16	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	11/30/18 14:08 / SR			PHSC_101-H_181130A	71	R140268
Bicarbonate as HCO3	130	mg/L		4	2	A2320 B	11/30/18 14:08 / SR			PHSC_101-H_181130A	71	R140268
Chloride	82	mg/L		1	0.009	E300.0	11/30/18 21:46 / SR			IC METROHM_181130A	39	R140315
Sulfate	100	mg/L		1	0.01	E300.0	11/30/18 21:46 / SR			IC METROHM_181130A	39	R140315
Hardness as CaCO3	243	mg/L		1	1	A2340 B	12/06/18 09:14 / sld			WATERCALC_181206A	6	R140421
NUTRIENTS												
Nitrogen, Ammonia as N	0.03	mg/L	J	0.05	0.02	E350.1	12/06/18 15:28 / km			FIA203-HE_181206D	66	R140449
Nitrogen, Nitrate+Nitrite as N	1.32	mg/L		0.02	0.009	E353.2	12/07/18 11:33 / km			FIA203-HE_181207B	31	R140480
Nitrogen, Total	1.64	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:16 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	34	44016
Phosphorus, Total as P	0.067	mg/L		0.003	0.002	E365.1	12/04/18 09:59 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	43	43976
METALS, DISSOLVED												
Aluminum	0.009	mg/L	J	0.009	0.003	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Antimony	0.00028	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Barium	0.046	mg/L		0.003	0.00002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Boron	0.090	mg/L	J	0.1	0.006	E200.7	12/03/18 14:21 / sld			ICP2-HE_181203B	45	R140342
Cadmium	0.00043	mg/L		0.00003	0.00003	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Calcium	64	mg/L		1	0.07	E200.7	12/03/18 14:21 / sld			ICP2-HE_181203B	45	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Cobalt	0.00017	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Copper	0.026	mg/L		0.001	0.0001	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Iron	0.06	mg/L		0.02	0.002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Lead	0.00020	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Magnesium	17	mg/L		1	0.1	E200.7	12/03/18 14:21 / sld			ICP2-HE_181203B	45	R140342
Manganese	0.186	mg/L		0.001	0.0003	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Mercury	0.0037	ug/L	J	0.005	0.0009	E245.1	12/05/18 12:11 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	39	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Nickel	0.0010	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Potassium	6	mg/L		1	0.06	E200.7	12/03/18 14:21 / sld			ICP2-HE_181203B	45	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-006
Collection Date: 11/29/18 09:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00043	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Sodium	39	mg/L		1	0.02	E200.7	12/03/18 14:21 / sld			ICP2-HE_181203B	45	R140342
Uranium	0.0060	mg/L		0.0002	0.00001	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
Zinc	0.156	mg/L		0.008	0.0003	E200.8	12/04/18 17:07 / sld			ICPMS205-H_181204A	190	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.076	mg/L		0.009	0.003	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 13:53 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	77	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Barium	0.048	mg/L		0.003	0.00009	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Boron	0.087	mg/L	J	0.1	0.005	E200.7	12/05/18 13:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	29	43973
Cadmium	0.00050	mg/L		0.00003	0.00003	E200.8	12/05/18 13:53 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	77	43973
Calcium	68	mg/L		1	0.09	E200.7	12/05/18 13:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	29	43973
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Cobalt	0.00021	mg/L	J	0.01	0.00006	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Copper	0.033	mg/L		0.001	0.0002	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Iron	0.21	mg/L		0.02	0.004	E200.8	12/05/18 13:53 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	77	43973
Lead	0.0009	mg/L		0.0003	0.00004	E200.8	12/05/18 13:53 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	77	43973
Magnesium	17	mg/L		1	0.2	E200.7	12/05/18 13:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	29	43973
Manganese	0.204	mg/L		0.001	0.0003	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Mercury	0.007	ug/L		0.005	0.0009	E245.1	12/06/18 12:55 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	19	43991
Molybdenum	0.005	mg/L		0.005	0.00002	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Nickel	0.0012	mg/L	J	0.002	0.0001	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 13:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	29	43973
Selenium	0.00044	mg/L	J	0.001	0.00005	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Silver	0.000015	mg/L	J	0.0002	9E-06	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Sodium	39	mg/L		1	0.03	E200.7	12/05/18 13:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	29	43973
Uranium	0.0062	mg/L		0.0002	9E-06	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Vanadium	0.0021	mg/L	J	0.1	0.00002	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973
Zinc	0.167	mg/L		0.008	0.001	E200.8	12/04/18 13:52 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	99	43973

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MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-007
Collection Date: 11/29/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	4	mg/L		1	0.3	A2540 D	11/30/18 14:27 / cm			l24 (14410200)_181130B	: 17	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	11/30/18 14:14 / SR			PHSC_101-H_181130A	: 73	R140268
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	11/30/18 14:14 / SR			PHSC_101-H_181130A	: 73	R140268
Chloride	74	mg/L		1	0.009	E300.0	11/30/18 22:00 / SR			IC METROHM_181130A	: 40	R140315
Sulfate	93	mg/L		1	0.01	E300.0	11/30/18 22:00 / SR			IC METROHM_181130A	: 40	R140315
Hardness as CaCO3	223	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	: 2	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	0.02	mg/L	J	0.05	0.02	E350.1	12/06/18 14:59 / km			FIA203-HE_181206D	: 42	R140449
Nitrogen, Nitrate+Nitrite as N	1.23	mg/L		0.02	0.009	E353.2	12/07/18 11:34 / km			FIA203-HE_181207B	: 32	R140480
Nitrogen, Total	1.54	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:17 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	: 35	44016
Phosphorus, Total as P	0.074	mg/L		0.003	0.002	E365.1	12/04/18 10:00 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	: 44	43976
METALS, DISSOLVED												
Aluminum	0.008	mg/L	J	0.009	0.003	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Antimony	0.00027	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Barium	0.049	mg/L		0.003	0.00002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Boron	0.083	mg/L	J	0.1	0.006	E200.7	12/03/18 14:24 / sld			ICP2-HE_181203B	: 46	R140342
Cadmium	0.00040	mg/L		0.00003	0.00003	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Calcium	60	mg/L		1	0.07	E200.7	12/03/18 14:24 / sld			ICP2-HE_181203B	: 46	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Cobalt	0.00018	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Copper	0.024	mg/L		0.001	0.0001	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Iron	0.05	mg/L		0.02	0.002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Lead	0.00018	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Magnesium	16	mg/L		1	0.1	E200.7	12/03/18 14:24 / sld			ICP2-HE_181203B	: 46	R140342
Manganese	0.181	mg/L		0.001	0.0003	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Mercury	0.0046	ug/L	J	0.005	0.0009	E245.1	12/06/18 13:08 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	: 23	43992
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Nickel	0.0011	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	: 191	R140358
Potassium	6	mg/L		1	0.06	E200.7	12/03/18 14:24 / sld			ICP2-HE_181203B	: 46	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-007
Collection Date: 11/29/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00038	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	191	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	191	R140358
Sodium	38	mg/L		1	0.02	E200.7	12/03/18 14:24 / sld			ICP2-HE_181203B	46	R140342
Uranium	0.0055	mg/L		0.0002	0.00001	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	191	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	191	R140358
Zinc	0.139	mg/L		0.008	0.0003	E200.8	12/04/18 17:09 / sld			ICPMS205-H_181204A	191	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.094	mg/L		0.009	0.003	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Antimony	0.0004	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:03 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	82	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Barium	0.046	mg/L		0.003	0.00009	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Boron	0.089	mg/L	J	0.1	0.005	E200.7	12/05/18 14:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	40	43973
Cadmium	0.00045	mg/L		0.00003	0.00003	E200.8	12/05/18 14:03 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	82	43973
Calcium	62	mg/L		1	0.09	E200.7	12/05/18 14:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	40	43973
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Cobalt	0.00020	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Copper	0.030	mg/L		0.001	0.0002	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Iron	0.22	mg/L		0.02	0.004	E200.8	12/05/18 14:03 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	82	43973
Lead	0.0009	mg/L		0.0003	0.00004	E200.8	12/05/18 14:03 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	82	43973
Magnesium	16	mg/L		1	0.2	E200.7	12/05/18 14:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	40	43973
Manganese	0.198	mg/L		0.001	0.0003	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Mercury	0.009	ug/L		0.005	0.0009	E245.1	12/06/18 13:11 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	24	43992
Molybdenum	0.0049	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Nickel	0.0012	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 14:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	40	43973
Selenium	0.00040	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Silver	0.000027	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Sodium	39	mg/L		1	0.03	E200.7	12/05/18 14:29 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	40	43973
Uranium	0.0059	mg/L		0.0002	9E-06	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Vanadium	0.0021	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973
Zinc	0.154	mg/L		0.008	0.001	E200.8	12/04/18 14:04 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	105	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-008
Collection Date: 11/28/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	4	mg/L		1	0.3	A2540 D	11/30/18 14:27 / cm			l24 (14410200)_181130B	18	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 09:34 / SR			PHSC_101-H_181203A	8	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 09:34 / SR			PHSC_101-H_181203A	8	R140311
Chloride	58	mg/L		1	0.009	E300.0	11/30/18 22:14 / SR			IC METROHM_181130A	41	R140315
Sulfate	94	mg/L		1	0.01	E300.0	11/30/18 22:14 / SR			IC METROHM_181130A	41	R140315
Hardness as CaCO3	220	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	3	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:01 / km			FIA203-HE_181206D	43	R140449
Nitrogen, Nitrate+Nitrite as N	0.88	mg/L		0.02	0.009	E353.2	12/07/18 11:36 / km			FIA203-HE_181207B	33	R140480
Nitrogen, Total	1.12	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:18 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	36	44016
Phosphorus, Total as P	0.079	mg/L		0.003	0.002	E365.1	12/04/18 10:01 / km	12/03/18 09:30	E365.1	FIA202-HE_181204A	45	43976
METALS, DISSOLVED												
Aluminum	0.008	mg/L	J	0.009	0.003	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Antimony	0.00024	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Barium	0.043	mg/L		0.003	0.00002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Boron	0.061	mg/L	J	0.1	0.006	E200.7	12/03/18 14:28 / sld			ICP2-HE_181203B	47	R140342
Cadmium	0.00032	mg/L		0.00003	0.00003	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Calcium	59	mg/L		1	0.07	E200.7	12/03/18 14:28 / sld			ICP2-HE_181203B	47	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Cobalt	0.00013	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Copper	0.017	mg/L		0.001	0.0001	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Iron	0.04	mg/L		0.02	0.002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Lead	0.00013	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Magnesium	14	mg/L		1	0.1	E200.7	12/03/18 14:28 / sld			ICP2-HE_181203B	47	R140342
Manganese	0.139	mg/L		0.001	0.0003	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Mercury	0.0045	ug/L	J	0.005	0.0009	E245.1	12/05/18 12:43 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	49	43992
Molybdenum	0.0049	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 14:28 / sld			ICP2-HE_181203B	47	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-008
Collection Date: 11/28/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00036	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Sodium	35	mg/L		1	0.02	E200.7	12/03/18 14:28 / sld			ICP2-HE_181203B	47	R140342
Uranium	0.0058	mg/L		0.0002	0.00001	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
Zinc	0.099	mg/L		0.008	0.0003	E200.8	12/04/18 17:11 / sld			ICPMS205-H_181204A	192	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.119	mg/L		0.009	0.003	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:05 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	83	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Barium	0.044	mg/L		0.003	0.00009	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Boron	0.067	mg/L	J	0.1	0.005	E200.7	12/05/18 14:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	45	43973
Cadmium	0.00037	mg/L		0.00003	0.00003	E200.8	12/05/18 14:05 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	83	43973
Calcium	64	mg/L		1	0.09	E200.7	12/05/18 14:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	45	43973
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Cobalt	0.00018	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Copper	0.024	mg/L		0.001	0.0002	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Iron	0.22	mg/L		0.02	0.004	E200.8	12/05/18 14:05 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	83	43973
Lead	0.0009	mg/L		0.0003	0.00004	E200.8	12/05/18 14:05 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	83	43973
Magnesium	15	mg/L		1	0.2	E200.7	12/05/18 14:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	45	43973
Manganese	0.163	mg/L		0.001	0.0003	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Mercury	0.008	ug/L		0.005	0.0009	E245.1	12/06/18 13:14 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	25	43992
Molybdenum	0.0050	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 14:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	45	43973
Selenium	0.00039	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Silver	0.000019	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Sodium	36	mg/L		1	0.03	E200.7	12/05/18 14:48 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	45	43973
Uranium	0.0062	mg/L		0.0002	9E-06	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Vanadium	0.0022	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973
Zinc	0.112	mg/L		0.008	0.001	E200.8	12/04/18 14:06 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	106	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-009
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	3	mg/L		1	0.3	A2540 D	11/30/18 14:27 / cm			l24 (14410200)_181130B	19	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 09:45 / SR			PHSC_101-H_181203A	12	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 09:45 / SR			PHSC_101-H_181203A	12	R140311
Chloride	65	mg/L		1	0.009	E300.0	11/30/18 22:28 / SR			IC METROHM_181130A	42	R140315
Sulfate	94	mg/L		1	0.01	E300.0	11/30/18 22:28 / SR			IC METROHM_181130A	42	R140315
Hardness as CaCO3	220	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	4	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:02 / km			FIA203-HE_181206D	44	R140449
Nitrogen, Nitrate+Nitrite as N	0.91	mg/L		0.02	0.009	E353.2	12/07/18 11:39 / km			FIA203-HE_181207B	36	R140480
Nitrogen, Total	1.17	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:19 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	37	44016
Phosphorus, Total as P	0.070	mg/L		0.003	0.002	E365.1	12/07/18 16:19 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	20	44042
METALS, DISSOLVED												
Aluminum	0.006	mg/L	J	0.009	0.003	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Antimony	0.00025	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Barium	0.042	mg/L		0.003	0.00002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Boron	0.068	mg/L	J	0.1	0.006	E200.7	12/03/18 14:32 / sld			ICP2-HE_181203B	48	R140342
Cadmium	0.00030	mg/L		0.00003	0.00003	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Calcium	59	mg/L		1	0.07	E200.7	12/03/18 14:32 / sld			ICP2-HE_181203B	48	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Cobalt	0.00014	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Copper	0.018	mg/L		0.001	0.0001	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Iron	0.04	mg/L		0.02	0.002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Lead	0.00013	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Magnesium	14	mg/L		1	0.1	E200.7	12/03/18 14:32 / sld			ICP2-HE_181203B	48	R140342
Manganese	0.132	mg/L		0.001	0.0003	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Mercury	0.0045	ug/L	J	0.005	0.0009	E245.1	12/05/18 12:50 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	51	43992
Molybdenum	0.0047	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Potassium	6	mg/L		1	0.06	E200.7	12/03/18 14:32 / sld			ICP2-HE_181203B	48	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-009
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00041	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Sodium	38	mg/L		1	0.02	E200.7	12/03/18 14:32 / sld			ICP2-HE_181203B	48	R140342
Uranium	0.0056	mg/L		0.0002	0.00001	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Vanadium	0.0018	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
Zinc	0.093	mg/L		0.008	0.0003	E200.8	12/04/18 17:13 / sld			ICPMS205-H_181204A	193	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.099	mg/L		0.009	0.003	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:07 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	84	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Barium	0.043	mg/L		0.003	0.00009	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Boron	0.069	mg/L	J	0.1	0.005	E200.7	12/05/18 14:52 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	46	43973
Cadmium	0.00034	mg/L		0.00003	0.00003	E200.8	12/05/18 14:07 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	84	43973
Calcium	63	mg/L		1	0.09	E200.7	12/05/18 14:52 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	46	43973
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Cobalt	0.00015	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Copper	0.023	mg/L		0.001	0.0002	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Iron	0.20	mg/L		0.02	0.004	E200.8	12/05/18 14:07 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	84	43973
Lead	0.0007	mg/L		0.0003	0.00004	E200.8	12/05/18 14:07 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	84	43973
Magnesium	15	mg/L		1	0.2	E200.7	12/05/18 14:52 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	46	43973
Manganese	0.141	mg/L		0.001	0.0003	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Mercury	0.006	ug/L		0.005	0.0009	E245.1	12/06/18 13:17 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	26	43992
Molybdenum	0.0050	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 14:52 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	46	43973
Selenium	0.00037	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Silver	0.000064	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Sodium	38	mg/L		1	0.03	E200.7	12/05/18 14:52 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	46	43973
Uranium	0.0060	mg/L		0.0002	9E-06	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Vanadium	0.0022	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973
Zinc	0.104	mg/L		0.008	0.001	E200.8	12/04/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	107	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-010
Collection Date: 11/28/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	11/30/18 14:28 / cm			l24 (14410200)_181130B	: 20	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 09:51 / SR			PHSC_101-H_181203A	: 14	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 09:51 / SR			PHSC_101-H_181203A	: 14	R140311
Chloride	77	mg/L		1	0.009	E300.0	11/30/18 22:42 / SR			IC METROHM_181130A	: 43	R140315
Sulfate	93	mg/L		1	0.01	E300.0	11/30/18 22:42 / SR			IC METROHM_181130A	: 43	R140315
Hardness as CaCO3	215	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	: 5	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:03 / km			FIA203-HE_181206D	: 45	R140449
Nitrogen, Nitrate+Nitrite as N	1.13	mg/L		0.02	0.009	E353.2	12/07/18 11:40 / km			FIA203-HE_181207B	: 37	R140480
Nitrogen, Total	1.38	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:23 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	: 40	44016
Phosphorus, Total as P	0.066	mg/L		0.003	0.002	E365.1	12/07/18 16:20 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	: 21	44042
METALS, DISSOLVED												
Aluminum	0.004	mg/L	J	0.009	0.003	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Antimony	0.00028	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Barium	0.042	mg/L		0.003	0.00002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Boron	0.069	mg/L	J	0.1	0.006	E200.7	12/03/18 14:36 / sld			ICP2-HE_181203B	: 49	R140342
Cadmium	0.00029	mg/L		0.00003	0.00003	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Calcium	60	mg/L		1	0.07	E200.7	12/03/18 14:36 / sld			ICP2-HE_181203B	: 49	R140342
Chromium	0.0002	mg/L	J	0.01	0.0002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Cobalt	0.00011	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Copper	0.017	mg/L		0.001	0.0001	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Iron	0.03	mg/L		0.02	0.002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Lead	0.00014	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Magnesium	14	mg/L		1	0.1	E200.7	12/03/18 14:36 / sld			ICP2-HE_181203B	: 49	R140342
Manganese	0.085	mg/L		0.001	0.0003	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Mercury	0.0044	ug/L	J	0.005	0.0009	E245.1	12/05/18 12:56 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	: 53	43992
Molybdenum	0.0046	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Nickel	0.0009	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	: 194	R140358
Potassium	6	mg/L		1	0.06	E200.7	12/03/18 14:36 / sld			ICP2-HE_181203B	: 49	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-010
Collection Date: 11/28/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00033	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	194	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	194	R140358
Sodium	44	mg/L		1	0.02	E200.7	12/03/18 14:36 / sld			ICP2-HE_181203B	49	R140342
Uranium	0.0053	mg/L		0.0002	0.00001	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	194	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	194	R140358
Zinc	0.082	mg/L		0.008	0.0003	E200.8	12/04/18 17:15 / sld			ICPMS205-H_181204A	194	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.078	mg/L		0.009	0.003	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	85	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Barium	0.044	mg/L		0.003	0.00009	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Boron	0.073	mg/L	J	0.1	0.005	E200.7	12/05/18 14:56 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	47	43973
Cadmium	0.00035	mg/L		0.00003	0.00003	E200.8	12/05/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	85	43973
Calcium	62	mg/L		1	0.09	E200.7	12/05/18 14:56 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	47	43973
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Cobalt	0.00013	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Copper	0.021	mg/L		0.001	0.0002	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Iron	0.16	mg/L		0.02	0.004	E200.8	12/05/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	85	43973
Lead	0.0007	mg/L		0.0003	0.00004	E200.8	12/05/18 14:08 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	85	43973
Magnesium	14	mg/L		1	0.2	E200.7	12/05/18 14:56 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	47	43973
Manganese	0.098	mg/L		0.001	0.0003	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Mercury	0.007	ug/L		0.005	0.0009	E245.1	12/06/18 13:20 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	27	43992
Molybdenum	0.0048	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Nickel	0.0010	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Potassium	6	mg/L		1	0.06	E200.7	12/05/18 14:56 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	47	43973
Selenium	0.00040	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Silver	0.000013	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Sodium	45	mg/L		1	0.03	E200.7	12/05/18 14:56 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	47	43973
Uranium	0.0058	mg/L		0.0002	9E-06	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Vanadium	0.0022	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973
Zinc	0.098	mg/L		0.008	0.001	E200.8	12/04/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	108	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-011
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	11/30/18 14:29 / cm			l24 (14410200)_181130B	: 21	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 09:56 / SR			PHSC_101-H_181203A	: 16	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 09:56 / SR			PHSC_101-H_181203A	: 16	R140311
Chloride	52	mg/L		1	0.009	E300.0	11/30/18 22:56 / SR			IC METROHM_181130A	: 44	R140315
Sulfate	78	mg/L		1	0.01	E300.0	11/30/18 22:56 / SR			IC METROHM_181130A	: 44	R140315
Hardness as CaCO3	188	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	: 6	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:06 / km			FIA203-HE_181206D	: 48	R140449
Nitrogen, Nitrate+Nitrite as N	0.97	mg/L		0.02	0.009	E353.2	12/07/18 11:41 / km			FIA203-HE_181207B	: 38	R140480
Nitrogen, Total	1.21	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:24 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	: 41	44016
Phosphorus, Total as P	0.058	mg/L		0.003	0.002	E365.1	12/07/18 16:21 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	: 22	44042
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Antimony	0.00023	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Barium	0.039	mg/L		0.003	0.00002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Boron	0.050	mg/L	J	0.1	0.006	E200.7	12/03/18 14:39 / sld			ICP2-HE_181203B	: 50	R140342
Cadmium	0.00026	mg/L		0.00003	0.00003	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Calcium	53	mg/L		1	0.07	E200.7	12/03/18 14:39 / sld			ICP2-HE_181203B	: 50	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Cobalt	0.00032	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Copper	0.013	mg/L		0.001	0.0001	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Iron	0.03	mg/L		0.02	0.002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Lead	0.00012	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Magnesium	12	mg/L		1	0.1	E200.7	12/03/18 14:39 / sld			ICP2-HE_181203B	: 50	R140342
Manganese	0.075	mg/L		0.001	0.0003	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Mercury	0.0043	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:02 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	: 55	43992
Molybdenum	0.0036	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	: 195	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 14:39 / sld			ICP2-HE_181203B	: 50	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-011
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00040	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	195	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	195	R140358
Sodium	32	mg/L		1	0.02	E200.7	12/03/18 14:39 / sld			ICP2-HE_181203B	50	R140342
Uranium	0.0044	mg/L		0.0002	0.00001	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	195	R140358
Vanadium	0.0015	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	195	R140358
Zinc	0.078	mg/L		0.008	0.0003	E200.8	12/04/18 17:17 / sld			ICPMS205-H_181204A	195	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.057	mg/L		0.009	0.003	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	86	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Barium	0.038	mg/L		0.003	0.00009	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Boron	0.050	mg/L	J	0.1	0.005	E200.7	12/05/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	48	43973
Cadmium	0.00028	mg/L		0.00003	0.00003	E200.8	12/05/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	86	43973
Calcium	55	mg/L		1	0.09	E200.7	12/05/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	48	43973
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Cobalt	0.00034	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Copper	0.016	mg/L		0.001	0.0002	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Iron	0.12	mg/L		0.02	0.004	E200.8	12/05/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	86	43973
Lead	0.0005	mg/L		0.0003	0.00004	E200.8	12/05/18 14:10 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	86	43973
Magnesium	12	mg/L		1	0.2	E200.7	12/05/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	48	43973
Manganese	0.082	mg/L		0.001	0.0003	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Mercury	0.005	ug/L		0.005	0.0009	E245.1	12/06/18 13:24 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	28	43992
Molybdenum	0.0038	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Potassium	5	mg/L		1	0.06	E200.7	12/05/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	48	43973
Selenium	0.00039	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Silver	0.000012	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Sodium	32	mg/L		1	0.03	E200.7	12/05/18 15:00 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	48	43973
Uranium	0.0046	mg/L		0.0002	9E-06	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Vanadium	0.0019	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973
Zinc	0.088	mg/L		0.008	0.001	E200.8	12/04/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	109	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-012
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	2	mg/L		1	0.3	A2540 D	11/30/18 14:29 / cm			l24 (14410200)_181130B	: 22	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 10:01 / SR			PHSC_101-H_181203A	: 18	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 10:01 / SR			PHSC_101-H_181203A	: 18	R140311
Chloride	52	mg/L		1	0.009	E300.0	12/01/18 00:21 / SR			IC METROHM_181130A	: 49	R140315
Sulfate	78	mg/L		1	0.01	E300.0	12/01/18 00:21 / SR			IC METROHM_181130A	: 49	R140315
Hardness as CaCO3	181	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	: 7	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:08 / km			FIA203-HE_181206D	: 49	R140449
Nitrogen, Nitrate+Nitrite as N	0.98	mg/L		0.02	0.009	E353.2	12/07/18 11:45 / km			FIA203-HE_181207B	: 41	R140480
Nitrogen, Total	1.19	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:25 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	: 42	44016
Phosphorus, Total as P	0.056	mg/L		0.003	0.002	E365.1	12/07/18 16:22 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	: 23	44042
METALS, DISSOLVED												
Aluminum	0.003	mg/L	J	0.009	0.003	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Antimony	0.00025	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Barium	0.038	mg/L		0.003	0.00002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Boron	0.050	mg/L	J	0.1	0.006	E200.7	12/03/18 14:43 / sld			ICP2-HE_181203B	: 51	R140342
Cadmium	0.00026	mg/L		0.00003	0.00003	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Calcium	54	mg/L		1	0.07	E200.7	12/03/18 14:43 / sld			ICP2-HE_181203B	: 51	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Cobalt	0.00032	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Copper	0.013	mg/L		0.001	0.0001	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Iron	0.03	mg/L		0.02	0.002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Lead	0.00011	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Magnesium	12	mg/L		1	0.1	E200.7	12/03/18 14:43 / sld			ICP2-HE_181203B	: 51	R140342
Manganese	0.074	mg/L		0.001	0.0003	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Mercury	0.0040	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:09 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	: 57	43992
Molybdenum	0.0036	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	: 202	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 14:43 / sld			ICP2-HE_181203B	: 51	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Duplicate
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-012
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00040	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	202	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	202	R140358
Sodium	32	mg/L		1	0.02	E200.7	12/03/18 14:43 / sld			ICP2-HE_181203B	51	R140342
Uranium	0.0044	mg/L		0.0002	0.00001	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	202	R140358
Vanadium	0.0016	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	202	R140358
Zinc	0.078	mg/L		0.008	0.0003	E200.8	12/04/18 17:30 / sld			ICPMS205-H_181204A	202	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.055	mg/L		0.009	0.003	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	87	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Barium	0.038	mg/L		0.003	0.00009	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Boron	0.051	mg/L	J	0.1	0.005	E200.7	12/05/18 15:11 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	51	43973
Cadmium	0.00027	mg/L		0.00003	0.00003	E200.8	12/05/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	87	43973
Calcium	53	mg/L		1	0.09	E200.7	12/05/18 15:11 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	51	43973
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Cobalt	0.00034	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Copper	0.016	mg/L		0.001	0.0002	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Iron	0.12	mg/L		0.02	0.004	E200.8	12/05/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	87	43973
Lead	0.0005	mg/L		0.0003	0.00004	E200.8	12/05/18 14:12 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	87	43973
Magnesium	12	mg/L		1	0.2	E200.7	12/05/18 15:11 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	51	43973
Manganese	0.081	mg/L		0.001	0.0003	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Mercury	0.005	ug/L		0.005	0.0009	E245.1	12/06/18 13:27 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	29	43992
Molybdenum	0.0038	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Potassium	5	mg/L		1	0.06	E200.7	12/05/18 15:11 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	51	43973
Selenium	0.00038	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Silver	9.3E-06	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Sodium	33	mg/L		1	0.03	E200.7	12/05/18 15:11 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	51	43973
Uranium	0.0046	mg/L		0.0002	9E-06	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Vanadium	0.0019	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973
Zinc	0.087	mg/L		0.008	0.001	E200.8	12/04/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	110	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-013
Collection Date: 11/28/18 11:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	4	mg/L		1	0.3	A2540 D	11/30/18 14:30 / cm			l24 (14410200)_181130B	27	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 10:06 / SR			PHSC_101-H_181203A	20	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 10:06 / SR			PHSC_101-H_181203A	20	R140311
Chloride	41	mg/L		1	0.009	E300.0	12/01/18 00:35 / SR			IC METROHM_181130A	50	R140315
Sulfate	79	mg/L		1	0.01	E300.0	12/01/18 00:35 / SR			IC METROHM_181130A	50	R140315
Hardness as CaCO3	187	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	8	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:09 / km			FIA203-HE_181206D	50	R140449
Nitrogen, Nitrate+Nitrite as N	0.98	mg/L		0.02	0.009	E353.2	12/07/18 11:46 / km			FIA203-HE_181207B	42	R140480
Nitrogen, Total	1.22	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:26 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	43	44016
Phosphorus, Total as P	0.059	mg/L		0.003	0.002	E365.1	12/07/18 16:23 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	24	44042
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Antimony	0.00024	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Arsenic	0.004	mg/L		0.001	0.00004	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Barium	0.039	mg/L		0.003	0.00002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Boron	0.044	mg/L	J	0.1	0.006	E200.7	12/03/18 14:47 / sld			ICP2-HE_181203B	52	R140342
Cadmium	0.00021	mg/L		0.00003	0.00003	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Calcium	54	mg/L		1	0.07	E200.7	12/03/18 14:47 / sld			ICP2-HE_181203B	52	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Cobalt	0.00032	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Copper	0.011	mg/L		0.001	0.0001	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Iron	0.03	mg/L		0.02	0.002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Lead	0.00014	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Magnesium	11	mg/L		1	0.1	E200.7	12/03/18 14:47 / sld			ICP2-HE_181203B	52	R140342
Manganese	0.084	mg/L		0.001	0.0003	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Mercury	0.0040	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:28 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	63	43992
Molybdenum	0.0037	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Nickel	0.0007	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 14:47 / sld			ICP2-HE_181203B	52	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-013
Collection Date: 11/28/18 11:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00040	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Sodium	27	mg/L		1	0.02	E200.7	12/03/18 14:47 / sld			ICP2-HE_181203B	52	R140342
Uranium	0.0044	mg/L		0.0002	0.00001	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Vanadium	0.0016	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
Zinc	0.088	mg/L		0.008	0.0003	E200.8	12/04/18 17:32 / sld			ICPMS205-H_181204A	203	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.115	mg/L		0.009	0.003	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	88	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Barium	0.040	mg/L		0.003	0.00009	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Boron	0.050	mg/L	J	0.1	0.005	E200.7	12/05/18 15:15 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	52	43973
Cadmium	0.00029	mg/L		0.00003	0.00003	E200.8	12/05/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	88	43973
Calcium	55	mg/L		1	0.09	E200.7	12/05/18 15:15 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	52	43973
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Cobalt	0.00037	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Copper	0.016	mg/L		0.001	0.0002	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Iron	0.19	mg/L		0.02	0.004	E200.8	12/05/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	88	43973
Lead	0.0008	mg/L		0.0003	0.00004	E200.8	12/05/18 14:14 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	88	43973
Magnesium	12	mg/L		1	0.2	E200.7	12/05/18 15:15 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	52	43973
Manganese	0.095	mg/L		0.001	0.0003	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Mercury	0.007	ug/L		0.005	0.0009	E245.1	12/06/18 13:30 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	30	43992
Molybdenum	0.0038	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Potassium	5	mg/L		1	0.06	E200.7	12/05/18 15:15 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	52	43973
Selenium	0.00038	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Silver	0.000013	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Sodium	28	mg/L		1	0.03	E200.7	12/05/18 15:15 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	52	43973
Uranium	0.0048	mg/L		0.0002	9E-06	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Vanadium	0.0021	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973
Zinc	0.104	mg/L		0.008	0.001	E200.8	12/04/18 14:16 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	111	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-014
Collection Date: 11/28/18 10:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	ND	mg/L		1	0.3	A2540 D	11/30/18 14:30 / cm			l24 (14410200)_181130B	28	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	2	mg/L	J	4	2	A2320 B	12/03/18 10:11 / SR			PHSC_101-H_181203A	22	R140311
Bicarbonate as HCO3	2	mg/L	J	4	2	A2320 B	12/03/18 10:11 / SR			PHSC_101-H_181203A	22	R140311
Chloride	0.074	mg/L	J	1	0.009	E300.0	12/01/18 00:49 / SR			IC METROHM_181130A	51	R140315
Sulfate	ND	mg/L		1	0.01	E300.0	12/01/18 00:49 / SR			IC METROHM_181130A	51	R140315
Hardness as CaCO3	ND	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	9	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:10 / km			FIA203-HE_181206D	51	R140449
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.02	0.009	E353.2	12/07/18 11:47 / km			FIA203-HE_181207B	43	R140480
Nitrogen, Total	ND	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:28 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	44	44016
Phosphorus, Total as P	ND	mg/L		0.003	0.002	E365.1	12/07/18 16:25 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	25	44042
METALS, DISSOLVED												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Antimony	ND	mg/L		0.0005	0.00009	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Arsenic	ND	mg/L		0.001	0.00004	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Barium	0.0012	mg/L	J	0.003	0.00002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Boron	ND	mg/L		0.1	0.006	E200.7	12/03/18 15:10 / sld			ICP2-HE_181203B	58	R140342
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Calcium	ND	mg/L		1	0.07	E200.7	12/03/18 15:10 / sld			ICP2-HE_181203B	58	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Cobalt	ND	mg/L		0.01	0.00009	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Copper	ND	mg/L		0.001	0.0001	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Iron	ND	mg/L		0.02	0.002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Lead	ND	mg/L		0.0003	0.00003	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Magnesium	ND	mg/L		1	0.01	E200.7	12/03/18 15:10 / sld			ICP2-HE_181203B	58	R140342
Manganese	ND	mg/L		0.001	0.0003	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Mercury	0.0023	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:35 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	65	43992
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Nickel	ND	mg/L		0.002	0.0002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Potassium	ND	mg/L		1	0.06	E200.7	12/03/18 15:10 / sld			ICP2-HE_181203B	58	R140342

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: Field Blank #1 SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-014
Collection Date: 11/28/18 10:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	ND	mg/L		0.001	0.00002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Sodium	0.02	mg/L	J	1	0.02	E200.7	12/03/18 15:10 / sld			ICP2-HE_181203B	58	R140342
Uranium	ND	mg/L		0.0002	0.00001	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Vanadium	ND	mg/L		0.1	0.00007	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
Zinc	0.012	mg/L		0.008	0.0003	E200.8	12/04/18 17:34 / sld			ICPMS205-H_181204A	204	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	ND	mg/L		0.009	0.003	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Antimony	ND	mg/L		0.0005	0.0001	E200.8	12/05/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	95	43973
Arsenic	0.00005	mg/L	J	0.001	0.00004	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Barium	ND	mg/L		0.003	0.00009	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Boron	ND	mg/L		0.1	0.005	E200.7	12/05/18 15:18 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	53	43973
Cadmium	ND	mg/L		0.00003	0.00003	E200.8	12/05/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	95	43973
Calcium	ND	mg/L		1	0.09	E200.7	12/05/18 15:18 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	53	43973
Chromium	0.0002	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Cobalt	ND	mg/L		0.01	0.00006	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Copper	ND	mg/L		0.001	0.0002	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Iron	ND	mg/L		0.02	0.004	E200.8	12/05/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	95	43973
Lead	ND	mg/L		0.0003	0.00004	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Magnesium	ND	mg/L		1	0.009	E200.7	12/05/18 15:18 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	53	43973
Manganese	ND	mg/L		0.001	0.0003	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Mercury	0.0023	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:38 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	66	43992
Molybdenum	ND	mg/L		0.005	0.00002	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Nickel	ND	mg/L		0.002	0.0001	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Potassium	ND	mg/L		1	0.06	E200.7	12/05/18 15:18 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	53	43973
Selenium	0.00005	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Silver	0.000020	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Sodium	ND	mg/L		1	0.03	E200.7	12/05/18 15:18 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	53	43973
Uranium	ND	mg/L		0.0002	9E-06	E200.8	12/05/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	95	43973
Vanadium	0.00017	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973
Zinc	0.002	mg/L	J	0.008	0.001	E200.8	12/04/18 14:29 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	118	43973

Report Definitions:
RL - Analyte reporting limit.
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ND - Not detected at the reporting limit.
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-015
Collection Date: 11/28/18 10:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	5	mg/L		1	0.3	A2540 D	11/30/18 14:31 / cm			l24 (14410200)_181130B	29	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 10:17 / SR			PHSC_101-H_181203A	24	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 10:17 / SR			PHSC_101-H_181203A	24	R140311
Chloride	38	mg/L		1	0.009	E300.0	12/01/18 01:03 / SR			IC METROHM_181130A	52	R140315
Sulfate	86	mg/L		1	0.01	E300.0	12/01/18 01:03 / SR			IC METROHM_181130A	52	R140315
Hardness as CaCO3	191	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	10	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:11 / km			FIA203-HE_181206D	52	R140449
Nitrogen, Nitrate+Nitrite as N	0.72	mg/L		0.02	0.009	E353.2	12/07/18 11:51 / km			FIA203-HE_181207B	46	R140480
Nitrogen, Total	0.96	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:31 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	47	44016
Phosphorus, Total as P	0.063	mg/L		0.003	0.002	E365.1	12/07/18 16:26 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	26	44042
METALS, DISSOLVED												
Aluminum	0.005	mg/L	J	0.009	0.003	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Antimony	0.00025	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Barium	0.039	mg/L		0.003	0.00002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Boron	0.047	mg/L	J	0.1	0.006	E200.7	12/03/18 15:14 / sld			ICP2-HE_181203B	59	R140342
Cadmium	0.00031	mg/L		0.00003	0.00003	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Calcium	54	mg/L		1	0.07	E200.7	12/03/18 15:14 / sld			ICP2-HE_181203B	59	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Cobalt	0.00034	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Copper	0.013	mg/L		0.001	0.0001	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Iron	0.03	mg/L		0.02	0.002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Lead	0.00012	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Magnesium	11	mg/L		1	0.1	E200.7	12/03/18 15:14 / sld			ICP2-HE_181203B	59	R140342
Manganese	0.070	mg/L		0.001	0.0003	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Mercury	0.0035	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:41 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	67	43992
Molybdenum	0.0039	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 15:14 / sld			ICP2-HE_181203B	59	R140342

Report Definitions:
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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-015
Collection Date: 11/28/18 10:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00034	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Sodium	27	mg/L		1	0.02	E200.7	12/03/18 15:14 / sld			ICP2-HE_181203B	59	R140342
Uranium	0.0047	mg/L		0.0002	0.00001	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Vanadium	0.0017	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
Zinc	0.106	mg/L		0.008	0.0003	E200.8	12/04/18 17:36 / sld			ICPMS205-H_181204A	205	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.166	mg/L		0.009	0.003	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Antimony	0.0003	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	96	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Barium	0.039	mg/L		0.003	0.00009	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Boron	0.050	mg/L	J	0.1	0.005	E200.7	12/05/18 15:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	58	43973
Cadmium	0.00037	mg/L		0.00003	0.00003	E200.8	12/05/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	96	43973
Calcium	57	mg/L		1	0.09	E200.7	12/05/18 15:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	58	43973
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Cobalt	0.00040	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Copper	0.018	mg/L		0.001	0.0002	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Iron	0.25	mg/L		0.02	0.004	E200.8	12/05/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	96	43973
Lead	0.0011	mg/L		0.0003	0.00004	E200.8	12/05/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	96	43973
Magnesium	12	mg/L		1	0.2	E200.7	12/05/18 15:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	58	43973
Manganese	0.084	mg/L		0.001	0.0003	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Mercury	0.008	ug/L		0.005	0.0009	E245.1	12/06/18 13:33 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	31	43992
Molybdenum	0.0040	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Nickel	0.0009	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Potassium	5	mg/L		1	0.06	E200.7	12/05/18 15:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	58	43973
Selenium	0.00034	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Silver	0.000030	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Sodium	27	mg/L		1	0.03	E200.7	12/05/18 15:37 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	58	43973
Uranium	0.0049	mg/L		0.0002	9E-06	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Vanadium	0.0021	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973
Zinc	0.118	mg/L		0.008	0.001	E200.8	12/04/18 14:31 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	119	43973

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-016
Collection Date: 11/28/18 09:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL PROPERTIES												
Solids, Total Suspended TSS @ 105 C	6	mg/L		1	0.3	A2540 D	11/30/18 14:31 / cm			l24 (14410200)_181130B	30	TSS181130A
INORGANICS												
Alkalinity, Total as CaCO3	110	mg/L		4	2	A2320 B	12/03/18 10:23 / SR			PHSC_101-H_181203A	26	R140311
Bicarbonate as HCO3	140	mg/L		4	2	A2320 B	12/03/18 10:23 / SR			PHSC_101-H_181203A	26	R140311
Chloride	37	mg/L		1	0.009	E300.0	12/01/18 01:17 / SR			IC METROHM_181130A	53	R140315
Sulfate	87	mg/L		1	0.01	E300.0	12/01/18 01:17 / SR			IC METROHM_181130A	53	R140315
Hardness as CaCO3	185	mg/L		1	1	A2340 B	12/06/18 10:13 / sld			WATERCALC_181206B	11	R140432
NUTRIENTS												
Nitrogen, Ammonia as N	ND	mg/L		0.05	0.02	E350.1	12/06/18 15:12 / km			FIA203-HE_181206D	53	R140449
Nitrogen, Nitrate+Nitrite as N	0.76	mg/L		0.02	0.009	E353.2	12/07/18 11:52 / km			FIA203-HE_181207B	47	R140480
Nitrogen, Total	0.99	mg/L		0.05	0.03	A4500 N-C	12/06/18 09:32 / km	12/05/18 10:46	A4500 N-	FIA203-HE_181206A	48	44016
Phosphorus, Total as P	0.064	mg/L		0.003	0.002	E365.1	12/07/18 16:30 / km	12/07/18 10:17	E365.1	FIA202-HE_181207B	29	44042
METALS, DISSOLVED												
Aluminum	0.006	mg/L	J	0.009	0.003	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Antimony	0.00026	mg/L	J	0.0005	0.00009	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Barium	0.041	mg/L		0.003	0.00002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Beryllium	ND	mg/L		0.0008	0.0001	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Boron	0.048	mg/L	J	0.1	0.006	E200.7	12/03/18 15:17 / sld			ICP2-HE_181203B	60	R140342
Cadmium	0.00033	mg/L		0.00003	0.00003	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Calcium	53	mg/L		1	0.07	E200.7	12/03/18 15:17 / sld			ICP2-HE_181203B	60	R140342
Chromium	ND	mg/L		0.01	0.0002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Cobalt	0.00035	mg/L	J	0.01	0.00009	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Copper	0.012	mg/L		0.001	0.0001	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Iron	0.03	mg/L		0.02	0.002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Lead	0.00014	mg/L	J	0.0003	0.00003	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Magnesium	11	mg/L		1	0.1	E200.7	12/03/18 15:17 / sld			ICP2-HE_181203B	60	R140342
Manganese	0.066	mg/L		0.001	0.0003	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Mercury	0.0043	ug/L	J	0.005	0.0009	E245.1	12/05/18 13:48 / dck	12/04/18 08:56	E245.1	HGCV202-H_181205A	69	43992
Molybdenum	0.0040	mg/L	J	0.005	0.00002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Nickel	0.0008	mg/L	J	0.002	0.0002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Potassium	5	mg/L		1	0.06	E200.7	12/03/18 15:17 / sld			ICP2-HE_181203B	60	R140342

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LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Surface Water

Lab ID: H18110574-016
Collection Date: 11/28/18 09:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS, DISSOLVED												
Selenium	0.00035	mg/L	J	0.001	0.00002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Silver	ND	mg/L		0.0002	0.00002	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Sodium	28	mg/L		1	0.02	E200.7	12/03/18 15:17 / sld			ICP2-HE_181203B	60	R140342
Uranium	0.0051	mg/L		0.0002	0.00001	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Vanadium	0.0019	mg/L	J	0.1	0.00007	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
Zinc	0.104	mg/L		0.008	0.0003	E200.8	12/04/18 17:38 / sld			ICPMS205-H_181204A	206	R140358
METALS, TOTAL RECOVERABLE												
Aluminum	0.182	mg/L		0.009	0.003	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Antimony	0.0002	mg/L	J	0.0005	0.0001	E200.8	12/05/18 14:35 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	97	43973
Arsenic	0.005	mg/L		0.001	0.00004	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Barium	0.038	mg/L		0.003	0.00009	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Beryllium	ND	mg/L		0.0008	0.00006	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Boron	0.051	mg/L	J	0.1	0.005	E200.7	12/05/18 15:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	59	43973
Cadmium	0.00034	mg/L		0.00003	0.00003	E200.8	12/05/18 14:35 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	97	43973
Calcium	55	mg/L		1	0.09	E200.7	12/05/18 15:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	59	43973
Chromium	0.0003	mg/L	J	0.01	0.0001	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Cobalt	0.00038	mg/L	J	0.01	0.00006	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Copper	0.018	mg/L		0.001	0.0002	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Iron	0.25	mg/L		0.02	0.004	E200.8	12/05/18 14:35 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	97	43973
Lead	0.0012	mg/L		0.0003	0.00004	E200.8	12/05/18 14:35 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181205A	97	43973
Magnesium	12	mg/L		1	0.2	E200.7	12/05/18 15:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	59	43973
Manganese	0.077	mg/L		0.001	0.0003	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Mercury	0.010	ug/L		0.005	0.0009	E245.1	12/06/18 13:37 / dck	12/04/18 08:56	E245.1	HGCV202-H_181206A	32	43992
Molybdenum	0.0037	mg/L	J	0.005	0.00002	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Nickel	0.0008	mg/L	J	0.002	0.0001	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Potassium	5	mg/L		1	0.06	E200.7	12/05/18 15:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	59	43973
Selenium	0.00037	mg/L	J	0.001	0.00005	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Silver	0.000024	mg/L	J	0.0002	9E-06	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Sodium	27	mg/L		1	0.03	E200.7	12/05/18 15:41 / sld	12/03/18 08:32	E200.2	ICP2-HE_181205A	59	43973
Uranium	0.0049	mg/L		0.0002	9E-06	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Vanadium	0.0024	mg/L	J	0.1	0.00002	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973
Zinc	0.109	mg/L		0.008	0.001	E200.8	12/04/18 14:33 / sld	12/03/18 08:32	E200.2	ICPMS205-H_181204A	120	43973

Report Definitions:
RL - Analyte reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
J - Estimated value. The analyte was present but less than the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sieve <0.063
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-017
Collection Date: 11/29/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	65.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	13	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.3	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	12	R140479
3050 EXTRACTABLE METALS												
Aluminum	21600	mg/kg-dry	D	30	30	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Arsenic	180	mg/kg-dry		5	0.6	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Barium	805	mg/kg-dry		5	0.4	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
Beryllium	1.3	mg/kg-dry	J	5	0.8	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Boron	21	mg/kg-dry		5	3	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
Cadmium	13.5	mg/kg-dry		0.3	0.3	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Chromium	132	mg/kg-dry		5	2	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Cobalt	34	mg/kg-dry		5	3	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Copper	1170	mg/kg-dry		8	8	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
Iron	47400	mg/kg-dry	D	200	200	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
Lead	732	mg/kg-dry		5	1	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Manganese	18900	mg/kg-dry		5	2	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
Molybdenum	20	mg/kg-dry		5	0.5	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Nickel	72	mg/kg-dry		5	1	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Selenium	3	mg/kg-dry	J	5	1	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Silver	6	mg/kg-dry		5	0.5	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Uranium	12	mg/kg-dry		5	0.3	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Vanadium	108	mg/kg-dry		1	1	SW6020	12/13/18 12:46 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	58	44088
Zinc	2850	mg/kg-dry		9	9	SW6010B	12/12/18 13:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	39	44088
METALS, TOTAL												
Mercury	0.90	mg/kg-dry		0.10	0.029	SW7471B	12/12/18 13:21 / dck	12/07/18 14:38	SW7471B	HGCV201-H_181212A	134	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-018
Collection Date: 11/29/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	14	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	43.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	13	R140479
3050 EXTRACTABLE METALS												
Aluminum	4020	mg/kg-dry	D	10	10	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Arsenic	37	mg/kg-dry		5	0.2	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Barium	97	mg/kg-dry		5	0.2	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Boron	6	mg/kg-dry		5	1	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
Cadmium	1.3	mg/kg-dry		0.2	0.1	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Chromium	8	mg/kg-dry		5	0.8	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Copper	135	mg/kg-dry		5	4	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
Iron	11300	mg/kg-dry	D	70	70	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
Lead	112	mg/kg-dry		5	0.5	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Manganese	1840	mg/kg-dry		5	1	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
Molybdenum	1.2	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Nickel	3.9	mg/kg-dry	J	5	0.5	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Silver	1.1	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Uranium	1.4	mg/kg-dry	J	5	0.1	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Vanadium	24	mg/kg-dry		1	0.5	SW6020	12/13/18 13:45 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	88	44100
Zinc	522	mg/kg-dry		5	4	SW6010B	12/13/18 19:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	164	44100
METALS, TOTAL												
Mercury	0.11	mg/kg-dry		0.10	0.0023	SW7471B	12/12/18 11:21 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	75	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-06G Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-019
Collection Date: 11/29/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	16	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	26.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	14	R140479
3050 EXTRACTABLE METALS												
Aluminum	3970	mg/kg-dry	D	10	10	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Arsenic	30	mg/kg-dry		5	0.2	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Barium	111	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
Cadmium	0.9	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Chromium	4.9	mg/kg-dry	J	5	0.8	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Copper	145	mg/kg-dry		5	4	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
Iron	9210	mg/kg-dry	D	70	70	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
Lead	69	mg/kg-dry		5	0.5	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Manganese	1960	mg/kg-dry		5	1	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
Molybdenum	1.6	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Nickel	3.3	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Silver	0.8	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Vanadium	16	mg/kg-dry		1	0.5	SW6020	12/13/18 15:02 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	128	44101
Zinc	328	mg/kg-dry		5	4	SW6010B	12/13/18 17:08 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	123	44101
METALS, TOTAL												
Mercury	0.06	mg/kg-dry	J	0.10	0.0021	SW7471B	12/12/18 12:20 / dck	12/07/18 14:42	SW7471B	HGCV201-H_181212A	105	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sieve <0.063
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-020
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	68.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 17	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.9	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 15	R140479
3050 EXTRACTABLE METALS												
Aluminum	20300	mg/kg-dry	D	30	30	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
Antimony	ND	mg/kg-dry		5	3	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Arsenic	183	mg/kg-dry		5	0.6	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Barium	554	mg/kg-dry		5	0.5	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
Beryllium	ND	mg/kg-dry		5	1	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Boron	17	mg/kg-dry		5	3	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
Cadmium	9.5	mg/kg-dry		0.3	0.3	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Chromium	85	mg/kg-dry		5	2	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Cobalt	30	mg/kg-dry		5	3	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Copper	948	mg/kg-dry		9	9	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
Iron	48500	mg/kg-dry	D	200	200	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
Lead	483	mg/kg-dry		5	1	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Manganese	12400	mg/kg-dry		5	3	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
Molybdenum	23	mg/kg-dry		5	0.5	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Nickel	52	mg/kg-dry		5	1	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Selenium	2	mg/kg-dry	J	5	1	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Silver	7	mg/kg-dry		5	0.6	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Uranium	10	mg/kg-dry		5	0.3	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Vanadium	103	mg/kg-dry		1	1	SW6020	12/13/18 12:48 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 59	44088
Zinc	2940	mg/kg-dry		10	10	SW6010B	12/12/18 13:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 40	44088
METALS, TOTAL												
Mercury	0.64	mg/kg-dry		0.10	0.0059	SW7471B	12/12/18 10:14 / dck	12/07/18 14:38	SW7471B	HGCV201-H_181212A	: 20	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-021
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.4	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	18	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	32.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	16	R140479
3050 EXTRACTABLE METALS												
Aluminum	3480	mg/kg-dry	D	10	10	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Arsenic	30	mg/kg-dry		5	0.2	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Barium	89	mg/kg-dry		5	0.2	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
Cadmium	1.1	mg/kg-dry		0.2	0.1	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Chromium	10	mg/kg-dry		5	0.8	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Cobalt	7	mg/kg-dry		5	1	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Copper	163	mg/kg-dry		5	4	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
Iron	21900	mg/kg-dry	D	70	70	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
Lead	71	mg/kg-dry		5	0.5	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Manganese	1860	mg/kg-dry		5	1	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
Molybdenum	2.0	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Nickel	5	mg/kg-dry		5	0.5	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Silver	0.9	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Vanadium	44	mg/kg-dry		1	0.5	SW6020	12/13/18 13:47 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	89	44100
Zinc	497	mg/kg-dry		5	4	SW6010B	12/13/18 19:46 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	165	44100
METALS, TOTAL												
Mercury	0.09	mg/kg-dry	J	0.10	0.0024	SW7471B	12/12/18 11:31 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	80	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-022
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	16.2	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	19	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	29.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	17	R140479
3050 EXTRACTABLE METALS												
Aluminum	3810	mg/kg-dry	D	10	10	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Arsenic	24	mg/kg-dry		5	0.2	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Barium	292	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
Cadmium	0.8	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Chromium	6	mg/kg-dry		5	0.7	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Copper	137	mg/kg-dry		5	3	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
Iron	8770	mg/kg-dry	D	70	70	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
Lead	343	mg/kg-dry		5	0.4	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Manganese	1320	mg/kg-dry		5	1	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
Molybdenum	1.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Nickel	3.5	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Vanadium	17	mg/kg-dry		1	0.5	SW6020	12/13/18 15:04 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	129	44101
Zinc	324	mg/kg-dry		5	4	SW6010B	12/13/18 17:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	124	44101
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0020	SW7471B	12/12/18 12:30 / dck	12/07/18 14:42	SW7471B	HGCV201-H_181212A	110	44063

Report Definitions:
RL - Analyte reporting limit.
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MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Duplicate Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-023
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	65.2	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	20	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.3	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	18	R140479
3050 EXTRACTABLE METALS												
Aluminum	19300	mg/kg-dry	D	30	30	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Arsenic	170	mg/kg-dry		5	0.6	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Barium	474	mg/kg-dry		5	0.4	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
Beryllium	ND	mg/kg-dry		5	0.9	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Boron	13	mg/kg-dry		5	3	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
Cadmium	8.3	mg/kg-dry		0.3	0.3	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Chromium	73	mg/kg-dry		5	2	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Cobalt	23	mg/kg-dry		5	3	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Copper	943	mg/kg-dry		8	8	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
Iron	48000	mg/kg-dry	D	200	200	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
Lead	445	mg/kg-dry		5	1	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Manganese	9900	mg/kg-dry		5	2	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
Molybdenum	19	mg/kg-dry		5	0.5	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Nickel	43	mg/kg-dry		5	1	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Selenium	2	mg/kg-dry	J	5	1	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Silver	6	mg/kg-dry		5	0.5	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Uranium	9	mg/kg-dry		5	0.3	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Vanadium	91	mg/kg-dry		1	1	SW6020	12/13/18 12:50 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	60	44088
Zinc	2570	mg/kg-dry		9	9	SW6010B	12/12/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	41	44088
METALS, TOTAL												
Mercury	0.70	mg/kg-dry		0.10	0.0053	SW7471B	12/12/18 10:16 / dck	12/07/18 14:38	SW7471B	HGCV201-H_181212A	21	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Duplicate Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-024
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.8	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	21	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	36.0	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	19	R140479
3050 EXTRACTABLE METALS												
Aluminum	4150	mg/kg-dry	D	10	10	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Arsenic	29	mg/kg-dry		5	0.2	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Barium	88	mg/kg-dry		5	0.2	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
Cadmium	1.7	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Chromium	15	mg/kg-dry		5	0.8	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Cobalt	7	mg/kg-dry		5	1	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Copper	186	mg/kg-dry		5	3	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
Iron	27600	mg/kg-dry	D	70	70	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
Lead	82	mg/kg-dry		5	0.5	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Manganese	1790	mg/kg-dry		5	1	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
Molybdenum	1.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Nickel	6	mg/kg-dry		5	0.5	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Silver	1.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Uranium	1.9	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Vanadium	60	mg/kg-dry		1	0.5	SW6020	12/13/18 14:04 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	98	44100
Zinc	733	mg/kg-dry		5	4	SW6010B	12/13/18 19:50 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	166	44100
METALS, TOTAL												
Mercury	0.19	mg/kg-dry		0.10	0.0018	SW7471B	12/12/18 11:33 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	81	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-07 Duplicate Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-025
Collection Date: 11/29/18 13:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	22	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	25.9	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	20	R140479
3050 EXTRACTABLE METALS												
Aluminum	3690	mg/kg-dry	D	10	10	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Arsenic	18	mg/kg-dry		5	0.2	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Barium	61	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Chromium	16	mg/kg-dry		5	0.7	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Copper	77	mg/kg-dry		5	3	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
Iron	8480	mg/kg-dry	D	70	70	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
Lead	45	mg/kg-dry		5	0.4	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Manganese	981	mg/kg-dry		5	1	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
Molybdenum	1.6	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Nickel	5	mg/kg-dry		5	0.5	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Silver	0.9	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Uranium	1.4	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Vanadium	23	mg/kg-dry		1	0.4	SW6020	12/13/18 15:06 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	130	44101
Zinc	268	mg/kg-dry		5	4	SW6010B	12/13/18 17:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	125	44101
METALS, TOTAL												
Mercury	0.05	mg/kg-dry	J	0.10	0.0020	SW7471B	12/12/18 12:36 / dck	12/07/18 14:42	SW7471B	HGCV201-H_181212A	113	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-026
Collection Date: 11/29/18 12:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	57.2	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 23	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 21	R140479
3050 EXTRACTABLE METALS												
Aluminum	20100	mg/kg-dry	D	20	20	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Arsenic	137	mg/kg-dry		5	0.5	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Barium	473	mg/kg-dry		5	0.4	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
Beryllium	0.7	mg/kg-dry	J	5	0.7	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Boron	12	mg/kg-dry		5	2	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
Cadmium	13.8	mg/kg-dry		0.2	0.2	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Chromium	80	mg/kg-dry		5	1	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Cobalt	21	mg/kg-dry		5	2	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Copper	860	mg/kg-dry		7	7	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
Iron	39400	mg/kg-dry	D	100	100	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
Lead	674	mg/kg-dry		5	0.9	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Manganese	7490	mg/kg-dry		5	2	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
Molybdenum	13	mg/kg-dry		5	0.4	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Nickel	48	mg/kg-dry		5	0.9	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Selenium	2.0	mg/kg-dry	J	5	0.8	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Silver	7	mg/kg-dry		5	0.4	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Uranium	7	mg/kg-dry		5	0.2	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Vanadium	76	mg/kg-dry		1	0.9	SW6020	12/13/18 12:52 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 61	44088
Zinc	2380	mg/kg-dry		7	7	SW6010B	12/12/18 13:54 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 52	44088
METALS, TOTAL												
Mercury	4.0	mg/kg-dry		0.32	0.11	SW7471B	12/12/18 13:39 / dck	12/07/18 14:38	SW7471B	HGCV201-H_181212A	: 142	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sieve 1mm-0.0633mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-027
Collection Date: 11/29/18 12:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.8	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	24	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	43.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	22	R140479
3050 EXTRACTABLE METALS												
Aluminum	4330	mg/kg-dry	D	10	10	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Arsenic	51	mg/kg-dry		5	0.3	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Barium	82	mg/kg-dry		5	0.2	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
Cadmium	1.4	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Chromium	5	mg/kg-dry		5	0.8	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Copper	222	mg/kg-dry		5	4	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
Iron	10000	mg/kg-dry	D	70	70	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
Lead	50	mg/kg-dry		5	0.5	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Manganese	1390	mg/kg-dry		5	1	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
Molybdenum	0.9	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Nickel	3.0	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Silver	2.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Vanadium	21	mg/kg-dry		1	0.5	SW6020	12/13/18 14:06 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	99	44100
Zinc	337	mg/kg-dry		5	4	SW6010B	12/13/18 19:53 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	167	44100
METALS, TOTAL												
Mercury	0.23	mg/kg-dry		0.10	0.0018	SW7471B	12/12/18 11:35 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	82	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-08 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-028
Collection Date: 11/29/18 12:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.8	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	26	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	26.0	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	23	R140479
3050 EXTRACTABLE METALS												
Aluminum	3250	mg/kg-dry	D	10	10	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Arsenic	34	mg/kg-dry		5	0.2	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Barium	65	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Boron	1	mg/kg-dry	J	5	1	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Chromium	3.5	mg/kg-dry	J	5	0.8	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Copper	82	mg/kg-dry		5	3	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
Iron	7770	mg/kg-dry	D	70	70	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
Lead	40	mg/kg-dry		5	0.5	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Manganese	971	mg/kg-dry		5	1	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
Molybdenum	0.9	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Nickel	2.2	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Silver	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Uranium	1.4	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Vanadium	14	mg/kg-dry		1	0.5	SW6020	12/13/18 15:08 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	131	44101
Zinc	203	mg/kg-dry		5	4	SW6010B	12/13/18 17:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	126	44101
METALS, TOTAL												
Mercury	0.06	mg/kg-dry	J	0.10	0.0022	SW7471B	12/12/18 12:38 / dck	12/07/18 14:42	SW7471B	HGCV201-H_181212A	114	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-029
Collection Date: 11/29/18 11:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	60.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	27	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	17.7	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	24	R140479
3050 EXTRACTABLE METALS												
Aluminum	34800	mg/kg-dry	D	30	30	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Arsenic	57	mg/kg-dry		5	0.5	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Barium	482	mg/kg-dry		5	0.4	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
Beryllium	1.2	mg/kg-dry	J	5	0.8	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Boron	9	mg/kg-dry		5	2	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
Cadmium	10.2	mg/kg-dry		0.2	0.2	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Chromium	38	mg/kg-dry		5	2	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Cobalt	13	mg/kg-dry		5	2	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Copper	685	mg/kg-dry		7	7	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
Iron	36400	mg/kg-dry	D	100	100	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
Lead	184	mg/kg-dry		5	1	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Manganese	1320	mg/kg-dry		5	2	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
Molybdenum	9	mg/kg-dry		5	0.4	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Nickel	19	mg/kg-dry		5	1	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Selenium	1.0	mg/kg-dry	J	5	0.9	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Silver	3.0	mg/kg-dry	J	5	0.4	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Uranium	8	mg/kg-dry		5	0.3	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Vanadium	70	mg/kg-dry		1	1	SW6020	12/13/18 12:54 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	62	44088
Zinc	1710	mg/kg-dry		8	8	SW6010B	12/12/18 13:58 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	53	44088
METALS, TOTAL												
Mercury	0.65	mg/kg-dry		0.10	0.018	SW7471B	12/12/18 13:25 / dck	12/07/18 14:38	SW7471B	HGCV201-H_181212A	136	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-030
Collection Date: 11/29/18 11:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	36.1	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	28	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	30.5	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	25	R140479
3050 EXTRACTABLE METALS												
Aluminum	12700	mg/kg-dry	D	20	20	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Arsenic	12	mg/kg-dry		5	0.3	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Barium	169	mg/kg-dry		5	0.2	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
Beryllium	0.5	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Boron	6	mg/kg-dry		5	2	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
Cadmium	4.2	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Chromium	13	mg/kg-dry		5	1	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Cobalt	7	mg/kg-dry		5	2	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Copper	211	mg/kg-dry		5	4	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
Iron	22200	mg/kg-dry	D	90	90	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
Lead	43	mg/kg-dry		5	0.6	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Manganese	463	mg/kg-dry		5	1	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
Molybdenum	1.0	mg/kg-dry	J	5	0.3	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Nickel	6	mg/kg-dry		5	0.6	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Selenium	ND	mg/kg-dry		5	0.6	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Silver	0.8	mg/kg-dry	J	5	0.3	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Uranium	2.9	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Vanadium	50	mg/kg-dry		1	0.6	SW6020	12/13/18 14:08 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	100	44100
Zinc	565	mg/kg-dry		5	5	SW6010B	12/13/18 19:57 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	168	44100
METALS, TOTAL												
Mercury	0.22	mg/kg-dry		0.10	0.0022	SW7471B	12/12/18 11:37 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	83	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-10A Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-031
Collection Date: 11/29/18 11:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	36.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	29	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	13.9	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	26	R140479
3050 EXTRACTABLE METALS												
Aluminum	9370	mg/kg-dry	D	20	20	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Arsenic	10	mg/kg-dry		5	0.3	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Barium	106	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
Beryllium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Boron	4	mg/kg-dry	J	5	1	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
Cadmium	1.7	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Chromium	5	mg/kg-dry	J	5	1	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Copper	103	mg/kg-dry		5	4	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
Iron	9640	mg/kg-dry	D	90	90	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
Lead	19	mg/kg-dry		5	0.6	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Manganese	901	mg/kg-dry		5	1	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
Molybdenum	1.1	mg/kg-dry	J	5	0.3	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Nickel	3.0	mg/kg-dry	J	5	0.6	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Selenium	ND	mg/kg-dry		5	0.6	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Silver	0.3	mg/kg-dry	J	5	0.3	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Uranium	2.0	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Vanadium	15	mg/kg-dry		1	0.6	SW6020	12/13/18 15:10 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	132	44101
Zinc	309	mg/kg-dry		5	5	SW6010B	12/13/18 17:23 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	127	44101
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0027	SW7471B	12/12/18 12:40 / dck	12/07/18 14:42	SW7471B	HGCV201-H_181212A	115	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-032
Collection Date: 11/29/18 09:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 30	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	6.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 27	R140479
3050 EXTRACTABLE METALS												
Aluminum	35700	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Arsenic	25	mg/kg-dry		5	0.4	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Barium	366	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
Beryllium	1.4	mg/kg-dry	J	5	0.6	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Boron	11	mg/kg-dry		5	2	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
Cadmium	5.2	mg/kg-dry		0.2	0.2	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Chromium	31	mg/kg-dry		5	1	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Cobalt	11	mg/kg-dry		5	2	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Copper	326	mg/kg-dry		6	6	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
Iron	27400	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
Lead	109	mg/kg-dry		5	0.8	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Manganese	1980	mg/kg-dry		5	2	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
Molybdenum	2.6	mg/kg-dry	J	5	0.3	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Nickel	19	mg/kg-dry		5	0.8	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Selenium	1.1	mg/kg-dry	J	5	0.7	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Silver	1.1	mg/kg-dry	J	5	0.4	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Uranium	4.0	mg/kg-dry	J	5	0.2	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Vanadium	50	mg/kg-dry		1	0.8	SW6020	12/13/18 12:56 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 63	44088
Zinc	750	mg/kg-dry		6	6	SW6010B	12/12/18 14:01 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 54	44088
METALS, TOTAL												
Mercury	0.23	mg/kg-dry		0.10	0.0032	SW7471B	12/12/18 10:36 / dck	12/07/18 14:38	SW7471B	HGCV201-H_181212A	: 54	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-033
Collection Date: 11/29/18 09:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	31	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	24.7	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	28	R140479
3050 EXTRACTABLE METALS												
Aluminum	6030	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Arsenic	6	mg/kg-dry		5	0.3	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Barium	131	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
Cadmium	1.2	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Chromium	11	mg/kg-dry		5	0.8	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Copper	37	mg/kg-dry		5	4	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
Iron	15600	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
Lead	14	mg/kg-dry		5	0.5	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Manganese	539	mg/kg-dry		5	1	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Nickel	4.8	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Silver	0.6	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Uranium	17	mg/kg-dry		5	0.1	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Vanadium	44	mg/kg-dry		1	0.5	SW6020	12/13/18 14:10 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	101	44100
Zinc	178	mg/kg-dry		5	4	SW6010B	12/13/18 20:01 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	169	44100
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0018	SW7471B	12/12/18 11:39 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	84	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11C Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-034
Collection Date: 11/29/18 09:45
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	32	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	26.8	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	29	R140479
3050 EXTRACTABLE METALS												
Aluminum	4870	mg/kg-dry	D	10	10	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Arsenic	4.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Barium	78	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Chromium	6	mg/kg-dry		5	0.8	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Cobalt	2	mg/kg-dry	J	5	1	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Copper	250	mg/kg-dry		5	3	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
Iron	5760	mg/kg-dry	D	70	70	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
Lead	79	mg/kg-dry		5	0.5	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Manganese	371	mg/kg-dry		5	1	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Nickel	3.3	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Silver	0.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Uranium	0.7	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Vanadium	12	mg/kg-dry		1	0.5	SW6020	12/13/18 15:12 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	133	44101
Zinc	98	mg/kg-dry		5	4	SW6010B	12/13/18 17:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	128	44101
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0019	SW7471B	12/12/18 12:42 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	116	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-035
Collection Date: 11/29/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	51.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 33	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 30	R140479
3050 EXTRACTABLE METALS												
Aluminum	33000	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Arsenic	54	mg/kg-dry		5	0.4	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Barium	560	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
Beryllium	1.2	mg/kg-dry	J	5	0.6	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Boron	10	mg/kg-dry		5	2	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
Cadmium	3.5	mg/kg-dry		0.2	0.2	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Chromium	65	mg/kg-dry		5	1	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Cobalt	13	mg/kg-dry		5	2	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Copper	235	mg/kg-dry		6	6	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
Iron	28500	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
Lead	199	mg/kg-dry		5	0.7	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Manganese	2200	mg/kg-dry		5	2	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
Molybdenum	3.7	mg/kg-dry	J	5	0.3	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Nickel	39	mg/kg-dry		5	0.8	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Selenium	0.8	mg/kg-dry	J	5	0.7	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Silver	1.3	mg/kg-dry	J	5	0.3	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Uranium	5	mg/kg-dry		5	0.2	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Vanadium	55	mg/kg-dry		1	0.8	SW6020	12/13/18 12:58 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 64	44088
Zinc	656	mg/kg-dry		6	6	SW6010B	12/12/18 14:05 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 55	44088
METALS, TOTAL												
Mercury	0.49	mg/kg-dry		0.10	0.015	SW7471B	12/12/18 13:37 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 141	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-036
Collection Date: 11/29/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.0	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	34	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	37.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	31	R140479
3050 EXTRACTABLE METALS												
Aluminum	6080	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Arsenic	8	mg/kg-dry		5	0.3	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Barium	170	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Chromium	15	mg/kg-dry		5	0.8	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Copper	17	mg/kg-dry		5	4	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
Iron	7910	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
Lead	21	mg/kg-dry		5	0.5	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Manganese	360	mg/kg-dry		5	1	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Nickel	9	mg/kg-dry		5	0.5	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Vanadium	14	mg/kg-dry		1	0.5	SW6020	12/13/18 14:12 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	102	44100
Zinc	73	mg/kg-dry		5	4	SW6010B	12/13/18 20:04 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	170	44100
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0019	SW7471B	12/12/18 11:44 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	87	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-11D Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-037
Collection Date: 11/29/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	36	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	42.8	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	32	R140479
3050 EXTRACTABLE METALS												
Aluminum	7410	mg/kg-dry	D	10	10	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Arsenic	8	mg/kg-dry		5	0.3	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Barium	237	mg/kg-dry		5	0.2	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Boron	ND	mg/kg-dry		5	1	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
Cadmium	0.3	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Chromium	21	mg/kg-dry		5	0.8	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Copper	18	mg/kg-dry		5	4	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
Iron	10500	mg/kg-dry	D	70	70	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
Lead	24	mg/kg-dry		5	0.5	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Manganese	366	mg/kg-dry		5	1	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Nickel	11	mg/kg-dry		5	0.5	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Selenium	0.7	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Uranium	1.1	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Vanadium	17	mg/kg-dry		1	0.5	SW6020	12/13/18 15:14 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	134	44101
Zinc	86	mg/kg-dry		5	4	SW6010B	12/13/18 17:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	129	44101
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0021	SW7471B	12/12/18 12:44 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	117	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-038
Collection Date: 11/28/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	62.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	37	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	11.5	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	33	R140479
3050 EXTRACTABLE METALS												
Aluminum	34500	mg/kg-dry	D	30	30	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Arsenic	40	mg/kg-dry		5	0.5	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Barium	458	mg/kg-dry		5	0.4	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
Beryllium	1.2	mg/kg-dry	J	5	0.8	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Boron	16	mg/kg-dry		5	3	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
Cadmium	7.4	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Chromium	49	mg/kg-dry		5	2	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Cobalt	13	mg/kg-dry		5	3	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Copper	450	mg/kg-dry		7	7	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
Iron	34100	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
Lead	146	mg/kg-dry		5	1	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Manganese	1890	mg/kg-dry		5	2	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
Molybdenum	4.2	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Nickel	29	mg/kg-dry		5	1	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Selenium	1.3	mg/kg-dry	J	5	0.9	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Silver	1.8	mg/kg-dry	J	5	0.5	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Uranium	5	mg/kg-dry		5	0.3	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Vanadium	76	mg/kg-dry		1	1	SW6020	12/13/18 13:08 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	69	44088
Zinc	1400	mg/kg-dry		8	8	SW6010B	12/12/18 14:09 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	56	44088
METALS, TOTAL												
Mercury	0.35	mg/kg-dry		0.10	0.0038	SW7471B	12/12/18 10:40 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	56	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-039
Collection Date: 11/28/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	25.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	38	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	43.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	34	R140479
3050 EXTRACTABLE METALS												
Aluminum	7140	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Arsenic	7	mg/kg-dry		5	0.3	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Barium	158	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
Cadmium	1.0	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Chromium	12	mg/kg-dry		5	0.8	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Cobalt	5	mg/kg-dry	J	5	1	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Copper	47	mg/kg-dry		5	4	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
Iron	11800	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
Lead	14	mg/kg-dry		5	0.5	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Manganese	392	mg/kg-dry		5	1	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Nickel	7	mg/kg-dry		5	0.5	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Silver	0.2	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Uranium	1.3	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Vanadium	26	mg/kg-dry		1	0.5	SW6020	12/13/18 14:14 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	103	44100
Zinc	189	mg/kg-dry		5	4	SW6010B	12/13/18 20:08 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	171	44100
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0021	SW7471B	12/12/18 11:47 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	88	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-13 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-040
Collection Date: 11/28/18 17:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	39	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	19.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	35	R140479
3050 EXTRACTABLE METALS												
Aluminum	4510	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Arsenic	4.8	mg/kg-dry	J	5	0.3	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Barium	95	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
Cadmium	0.2	mg/kg-dry	J	0.2	0.1	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Chromium	10	mg/kg-dry		5	0.8	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Cobalt	2	mg/kg-dry	J	5	1	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Copper	13	mg/kg-dry		5	4	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
Iron	6780	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
Lead	6	mg/kg-dry		5	0.5	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Manganese	193	mg/kg-dry		5	1	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
Molybdenum	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Nickel	6	mg/kg-dry		5	0.5	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Uranium	0.7	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Vanadium	13	mg/kg-dry		1	0.5	SW6020	12/13/18 15:26 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	140	44101
Zinc	70	mg/kg-dry		5	4	SW6010B	12/13/18 18:12 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	140	44101
METALS, TOTAL												
Mercury	0.01	mg/kg-dry	J	0.10	0.0019	SW7471B	12/12/18 12:46 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	118	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-041
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	53.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 40	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.7	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 36	R140479
3050 EXTRACTABLE METALS												
Aluminum	36100	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Arsenic	36	mg/kg-dry		5	0.4	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Barium	496	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
Beryllium	1.2	mg/kg-dry	J	5	0.6	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Boron	13	mg/kg-dry		5	2	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
Cadmium	5.0	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Chromium	57	mg/kg-dry		5	1	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Cobalt	17	mg/kg-dry		5	2	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Copper	332	mg/kg-dry		6	6	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
Iron	36200	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
Lead	223	mg/kg-dry		5	0.8	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Manganese	3500	mg/kg-dry		5	2	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
Molybdenum	3.1	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Nickel	33	mg/kg-dry		5	0.8	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Selenium	1.0	mg/kg-dry	J	5	0.7	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Silver	1.3	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Uranium	3.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Vanadium	75	mg/kg-dry		1	0.8	SW6020	12/13/18 13:10 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 70	44088
Zinc	1090	mg/kg-dry		6	6	SW6010B	12/12/18 14:12 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 57	44088
METALS, TOTAL												
Mercury	0.26	mg/kg-dry		0.10	0.0035	SW7471B	12/12/18 10:42 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 57	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-042
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	41	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	30.3	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	37	R140479
3050 EXTRACTABLE METALS												
Aluminum	4140	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Arsenic	6	mg/kg-dry		5	0.2	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Barium	93	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Chromium	8	mg/kg-dry		5	0.8	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Copper	22	mg/kg-dry		5	3	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
Iron	8740	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
Lead	9	mg/kg-dry		5	0.5	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Manganese	404	mg/kg-dry		5	1	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Nickel	4.5	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Vanadium	21	mg/kg-dry		1	0.5	SW6020	12/13/18 14:16 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	104	44100
Zinc	117	mg/kg-dry		5	4	SW6010B	12/13/18 20:12 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	172	44100
METALS, TOTAL												
Mercury	0.07	mg/kg-dry	J	0.10	0.0021	SW7471B	12/12/18 11:49 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	89	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-043
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.7	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	42	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	31.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	38	R140479
3050 EXTRACTABLE METALS												
Aluminum	3790	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Arsenic	4.9	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Barium	84	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
Cadmium	0.4	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Chromium	9	mg/kg-dry		5	0.8	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Cobalt	2	mg/kg-dry	J	5	1	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Copper	18	mg/kg-dry		5	3	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
Iron	6440	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
Lead	9	mg/kg-dry		5	0.5	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Manganese	406	mg/kg-dry		5	1	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Nickel	5	mg/kg-dry		5	0.5	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Uranium	0.7	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Vanadium	12	mg/kg-dry		1	0.5	SW6020	12/13/18 15:28 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	141	44101
Zinc	112	mg/kg-dry		5	4	SW6010B	12/13/18 18:16 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	141	44101
METALS, TOTAL												
Mercury	0.009	mg/kg-dry	J	0.10	0.0021	SW7471B	12/12/18 12:48 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	119	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Duplicate Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-044
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.7	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 43	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	2.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 39	R140479
3050 EXTRACTABLE METALS												
Aluminum	36600	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Arsenic	35	mg/kg-dry		5	0.4	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Barium	496	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
Beryllium	1.3	mg/kg-dry	J	5	0.7	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Boron	13	mg/kg-dry		5	2	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
Cadmium	5.1	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Chromium	61	mg/kg-dry		5	1	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Cobalt	16	mg/kg-dry		5	2	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Copper	366	mg/kg-dry		6	6	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
Iron	35200	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
Lead	191	mg/kg-dry		5	0.8	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Manganese	3140	mg/kg-dry		5	2	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
Molybdenum	3.2	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Nickel	37	mg/kg-dry		5	0.8	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Selenium	1.1	mg/kg-dry	J	5	0.8	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Silver	1.3	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Uranium	3.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Vanadium	70	mg/kg-dry		1	0.8	SW6020	12/13/18 13:12 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 71	44088
Zinc	1160	mg/kg-dry		7	7	SW6010B	12/12/18 14:16 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 58	44088
METALS, TOTAL												
Mercury	0.24	mg/kg-dry		0.10	0.0032	SW7471B	12/12/18 10:44 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 58	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Duplicate Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-045
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	22.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	44	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	26.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	40	R140479
3050 EXTRACTABLE METALS												
Aluminum	4620	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Arsenic	6	mg/kg-dry		5	0.3	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Barium	104	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Chromium	9	mg/kg-dry		5	0.8	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Copper	26	mg/kg-dry		5	4	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
Iron	10100	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
Lead	14	mg/kg-dry		5	0.5	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Manganese	438	mg/kg-dry		5	1	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Nickel	4.5	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Vanadium	24	mg/kg-dry		1	0.5	SW6020	12/13/18 14:18 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	105	44100
Zinc	122	mg/kg-dry		5	4	SW6010B	12/13/18 20:23 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	175	44100
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0018	SW7471B	12/12/18 11:50 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	90	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-14 Duplicate Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-046
Collection Date: 11/28/18 16:00
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	18.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	46	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	44.9	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	41	R140479
3050 EXTRACTABLE METALS												
Aluminum	4670	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Arsenic	4.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Barium	115	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Chromium	10	mg/kg-dry		5	0.8	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Copper	15	mg/kg-dry		5	3	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
Iron	6590	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
Lead	7	mg/kg-dry		5	0.5	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Manganese	433	mg/kg-dry		5	1	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Nickel	5	mg/kg-dry		5	0.5	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Vanadium	13	mg/kg-dry		1	0.5	SW6020	12/13/18 15:30 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	142	44101
Zinc	122	mg/kg-dry		5	4	SW6010B	12/13/18 18:20 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	142	44101
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0019	SW7471B	12/12/18 12:50 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	120	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-047
Collection Date: 11/28/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	46.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	47	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.5	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	42	R140479
3050 EXTRACTABLE METALS												
Aluminum	35300	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Arsenic	31	mg/kg-dry		5	0.4	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Barium	478	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
Beryllium	1.3	mg/kg-dry	J	5	0.6	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Boron	10	mg/kg-dry		5	2	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
Cadmium	3.2	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Chromium	33	mg/kg-dry		5	1	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Cobalt	13	mg/kg-dry		5	2	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Copper	265	mg/kg-dry		5	5	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
Iron	31900	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
Lead	101	mg/kg-dry		5	0.7	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Manganese	1760	mg/kg-dry		5	2	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
Molybdenum	1.7	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Nickel	21	mg/kg-dry		5	0.7	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Selenium	0.7	mg/kg-dry	J	5	0.7	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Silver	1.2	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Uranium	2.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Vanadium	55	mg/kg-dry		1	0.7	SW6020	12/13/18 13:14 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	72	44088
Zinc	792	mg/kg-dry		6	6	SW6010B	12/12/18 14:20 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	59	44088
METALS, TOTAL												
Mercury	0.26	mg/kg-dry		0.10	0.0028	SW7471B	12/12/18 10:50 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	61	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-048
Collection Date: 11/28/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	48	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	26.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	43	R140479
3050 EXTRACTABLE METALS												
Aluminum	4700	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Arsenic	41	mg/kg-dry		5	0.3	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Barium	157	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
Cadmium	1.0	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Chromium	12	mg/kg-dry		5	0.8	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Cobalt	5	mg/kg-dry	J	5	1	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Copper	163	mg/kg-dry		5	4	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
Iron	22200	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
Lead	39	mg/kg-dry		5	0.5	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Manganese	583	mg/kg-dry		5	1	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
Molybdenum	1.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Nickel	4.3	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Silver	2.0	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Uranium	1.6	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Vanadium	59	mg/kg-dry		1	0.5	SW6020	12/13/18 14:20 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	106	44100
Zinc	316	mg/kg-dry		5	4	SW6010B	12/13/18 20:27 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	176	44100
METALS, TOTAL												
Mercury	0.12	mg/kg-dry		0.10	0.0019	SW7471B	12/12/18 11:52 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	91	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15A-2 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-049
Collection Date: 11/28/18 14:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	19.1	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	49	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	24.5	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	44	R140479
3050 EXTRACTABLE METALS												
Aluminum	3890	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Arsenic	35	mg/kg-dry		5	0.2	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Barium	100	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
Cadmium	1.1	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Chromium	7	mg/kg-dry		5	0.8	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Cobalt	2	mg/kg-dry	J	5	1	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Copper	163	mg/kg-dry		5	3	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
Iron	10300	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
Lead	39	mg/kg-dry		5	0.5	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Manganese	393	mg/kg-dry		5	1	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
Molybdenum	1.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Nickel	3.3	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Silver	0.6	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Uranium	2.1	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Vanadium	15	mg/kg-dry		1	0.5	SW6020	12/13/18 15:32 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	143	44101
Zinc	433	mg/kg-dry		5	4	SW6010B	12/13/18 18:24 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	143	44101
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0018	SW7471B	12/12/18 12:56 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	123	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-050
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	57.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 50	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	1.5	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 45	R140479
3050 EXTRACTABLE METALS												
Aluminum	37300	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Arsenic	76	mg/kg-dry		5	0.5	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Barium	723	mg/kg-dry		5	0.4	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
Beryllium	1.5	mg/kg-dry	J	5	0.7	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Boron	13	mg/kg-dry		5	2	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
Cadmium	6.0	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Chromium	57	mg/kg-dry		5	1	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Cobalt	12	mg/kg-dry		5	2	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Copper	445	mg/kg-dry		7	7	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
Iron	35700	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
Lead	255	mg/kg-dry		5	0.9	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Manganese	2630	mg/kg-dry		5	2	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
Molybdenum	2.8	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Nickel	33	mg/kg-dry		5	0.9	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Selenium	1.4	mg/kg-dry	J	5	0.9	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Silver	2.1	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Uranium	3.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Vanadium	57	mg/kg-dry		1	0.9	SW6020	12/13/18 13:16 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 73	44088
Zinc	1300	mg/kg-dry		7	7	SW6010B	12/12/18 14:23 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 60	44088
METALS, TOTAL												
Mercury	0.45	mg/kg-dry		0.10	0.0034	SW7471B	12/12/18 10:52 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 62	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-051
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	21.7	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	51	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	27.6	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	46	R140479
3050 EXTRACTABLE METALS												
Aluminum	7500	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Arsenic	24	mg/kg-dry		5	0.2	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Barium	113	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
Cadmium	0.6	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Chromium	11	mg/kg-dry		5	0.8	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Copper	32	mg/kg-dry		5	4	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
Iron	10700	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
Lead	14	mg/kg-dry		5	0.5	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Manganese	289	mg/kg-dry		5	1	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
Molybdenum	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Nickel	6	mg/kg-dry		5	0.5	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Silver	0.3	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Uranium	1.0	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Vanadium	23	mg/kg-dry		1	0.5	SW6020	12/13/18 14:29 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	111	44100
Zinc	202	mg/kg-dry		5	4	SW6010B	12/13/18 20:30 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	177	44100
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0019	SW7471B	12/12/18 12:02 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	96	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-15B Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-052
Collection Date: 11/28/18 13:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	17.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	52	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	41.0	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	47	R140479
3050 EXTRACTABLE METALS												
Aluminum	8040	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Arsenic	14	mg/kg-dry		5	0.2	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Barium	120	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
Beryllium	ND	mg/kg-dry		5	0.3	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
Cadmium	0.2	mg/kg-dry	J	0.2	0.1	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Chromium	12	mg/kg-dry		5	0.7	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Copper	31	mg/kg-dry		5	3	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
Iron	10900	mg/kg-dry	D	60	60	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
Lead	14	mg/kg-dry		5	0.4	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Manganese	268	mg/kg-dry		5	1	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
Molybdenum	0.2	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Nickel	8	mg/kg-dry		5	0.4	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Uranium	0.8	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Vanadium	20	mg/kg-dry		1	0.4	SW6020	12/13/18 15:34 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	144	44101
Zinc	118	mg/kg-dry		5	4	SW6010B	12/13/18 18:27 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	144	44101
METALS, TOTAL												
Mercury	0.02	mg/kg-dry	J	0.10	0.0022	SW7471B	12/12/18 13:06 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	128	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-053
Collection Date: 11/28/18 11:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	51.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 53	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	4.4	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 48	R140479
3050 EXTRACTABLE METALS												
Aluminum	35900	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Arsenic	45	mg/kg-dry		5	0.4	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Barium	520	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
Beryllium	1.4	mg/kg-dry	J	5	0.6	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Boron	11	mg/kg-dry		5	2	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
Cadmium	3.8	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Chromium	47	mg/kg-dry		5	1	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Cobalt	14	mg/kg-dry		5	2	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Copper	324	mg/kg-dry		6	6	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
Iron	39300	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
Lead	141	mg/kg-dry		5	0.7	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Manganese	2450	mg/kg-dry		5	2	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
Molybdenum	1.7	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Nickel	26	mg/kg-dry		5	0.8	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Selenium	ND	mg/kg-dry		5	0.7	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Silver	1.9	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Uranium	3.0	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Vanadium	79	mg/kg-dry		1	0.8	SW6020	12/13/18 13:17 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 74	44088
Zinc	838	mg/kg-dry		6	6	SW6010B	12/12/18 14:35 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 63	44088
METALS, TOTAL												
Mercury	0.49	mg/kg-dry		0.10	0.015	SW7471B	12/12/18 13:45 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 145	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-054
Collection Date: 11/28/18 11:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	54	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	69.0	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	49	R140479
3050 EXTRACTABLE METALS												
Aluminum	6400	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Arsenic	16	mg/kg-dry		5	0.2	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Barium	145	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
Cadmium	0.7	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Chromium	18	mg/kg-dry		5	0.8	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Cobalt	5	mg/kg-dry	J	5	1	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Copper	78	mg/kg-dry		5	3	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
Iron	27000	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
Lead	31	mg/kg-dry		5	0.5	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Manganese	747	mg/kg-dry		5	1	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
Molybdenum	0.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Nickel	6	mg/kg-dry		5	0.5	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Silver	0.8	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Uranium	3.0	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Vanadium	74	mg/kg-dry		1	0.5	SW6020	12/13/18 14:31 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	112	44100
Zinc	296	mg/kg-dry		5	4	SW6010B	12/13/18 20:34 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	178	44100
METALS, TOTAL												
Mercury	0.08	mg/kg-dry	J	0.10	0.0018	SW7471B	12/12/18 12:08 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	99	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-16B Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-055
Collection Date: 11/28/18 11:30
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	23.2	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	56	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	13.1	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	50	R140479
3050 EXTRACTABLE METALS												
Aluminum	6030	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Arsenic	17	mg/kg-dry		5	0.2	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Barium	140	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
Cadmium	0.5	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Chromium	9	mg/kg-dry		5	0.8	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Cobalt	4	mg/kg-dry	J	5	1	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Copper	85	mg/kg-dry		5	3	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
Iron	10100	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
Lead	24	mg/kg-dry		5	0.5	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Manganese	581	mg/kg-dry		5	1	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Nickel	5	mg/kg-dry		5	0.5	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Vanadium	18	mg/kg-dry		1	0.5	SW6020	12/13/18 15:35 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	145	44101
Zinc	202	mg/kg-dry		5	4	SW6010B	12/13/18 18:31 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	145	44101
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0026	SW7471B	12/12/18 13:08 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	129	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-056
Collection Date: 11/28/18 10:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	46.6	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 57	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	12.7	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 51	R140479
3050 EXTRACTABLE METALS												
Aluminum	38700	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Arsenic	33	mg/kg-dry		5	0.4	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Barium	351	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
Beryllium	1.4	mg/kg-dry	J	5	0.5	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Boron	11	mg/kg-dry		5	2	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
Cadmium	3.4	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Chromium	49	mg/kg-dry		5	1	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Cobalt	15	mg/kg-dry		5	2	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Copper	270	mg/kg-dry		5	5	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
Iron	38200	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
Lead	105	mg/kg-dry		5	0.7	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Manganese	1550	mg/kg-dry		5	2	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
Molybdenum	2.2	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Nickel	29	mg/kg-dry		5	0.7	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Selenium	0.7	mg/kg-dry	J	5	0.6	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Silver	1.6	mg/kg-dry	J	5	0.3	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Uranium	4.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Vanadium	87	mg/kg-dry		1	0.7	SW6020	12/13/18 13:19 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 75	44088
Zinc	722	mg/kg-dry		6	6	SW6010B	12/12/18 14:38 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 64	44088
METALS, TOTAL												
Mercury	0.52	mg/kg-dry		0.10	0.013	SW7471B	12/12/18 13:47 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 146	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-057
Collection Date: 11/28/18 10:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.5	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	58	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	33.1	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	52	R140479
3050 EXTRACTABLE METALS												
Aluminum	5760	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Arsenic	12	mg/kg-dry		5	0.2	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Barium	120	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
Cadmium	0.7	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Chromium	19	mg/kg-dry		5	0.8	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Cobalt	5	mg/kg-dry		5	1	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Copper	60	mg/kg-dry		5	4	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
Iron	27200	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
Lead	28	mg/kg-dry		5	0.5	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Manganese	285	mg/kg-dry		5	1	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
Molybdenum	0.6	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Nickel	6	mg/kg-dry		5	0.5	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Uranium	2.2	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Vanadium	83	mg/kg-dry		1	0.5	SW6020	12/13/18 14:33 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	113	44100
Zinc	236	mg/kg-dry		5	4	SW6010B	12/13/18 20:38 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	179	44100
METALS, TOTAL												
Mercury	0.1	mg/kg-dry	J	0.10	0.0020	SW7471B	12/12/18 12:10 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	100	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-17D Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-058
Collection Date: 11/28/18 10:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.0	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	59	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	12.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	53	R140479
3050 EXTRACTABLE METALS												
Aluminum	2900	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Arsenic	9	mg/kg-dry		5	0.2	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Barium	30	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
Cadmium	0.2	mg/kg-dry	J	0.2	0.1	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Chromium	5.0	mg/kg-dry	J	5	0.8	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Cobalt	2	mg/kg-dry	J	5	1	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Copper	46	mg/kg-dry		5	3	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
Iron	6280	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
Lead	21	mg/kg-dry		5	0.5	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Manganese	173	mg/kg-dry		5	1	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Nickel	2.6	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Selenium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Uranium	1.2	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Vanadium	14	mg/kg-dry		1	0.5	SW6020	12/13/18 15:37 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	146	44101
Zinc	116	mg/kg-dry		5	4	SW6010B	12/13/18 18:35 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	146	44101
METALS, TOTAL												
Mercury	0.04	mg/kg-dry	J	0.10	0.0024	SW7471B	12/12/18 13:10 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	130	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sieve <0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-059
Collection Date: 11/28/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	54.9	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	: 60	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Passed	3.9	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	: 54	R140479
3050 EXTRACTABLE METALS												
Aluminum	25600	mg/kg-dry	D	20	20	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
Antimony	ND	mg/kg-dry		5	2	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Arsenic	68	mg/kg-dry		5	0.4	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Barium	298	mg/kg-dry		5	0.3	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
Beryllium	1.2	mg/kg-dry	J	5	0.7	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Boron	9	mg/kg-dry		5	2	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
Cadmium	10.2	mg/kg-dry		0.2	0.2	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Chromium	60	mg/kg-dry		5	1	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Cobalt	14	mg/kg-dry		5	2	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Copper	644	mg/kg-dry		6	6	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
Iron	31100	mg/kg-dry	D	100	100	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
Lead	260	mg/kg-dry		5	0.8	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Manganese	1560	mg/kg-dry		5	2	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
Molybdenum	3.5	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Nickel	35	mg/kg-dry		5	0.9	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Selenium	1.6	mg/kg-dry	J	5	0.8	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Silver	2.8	mg/kg-dry	J	5	0.4	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Uranium	4.6	mg/kg-dry	J	5	0.2	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Vanadium	65	mg/kg-dry		1	0.8	SW6020	12/13/18 13:21 / sld	12/10/18 16:17	SW3050 B	ICPMS205-H_181213B	: 76	44088
Zinc	1910	mg/kg-dry		7	7	SW6010B	12/12/18 14:42 / sld	12/10/18 16:17	SW3050 B	ICP2-HE_181212B	: 65	44088
METALS, TOTAL												
Mercury	1.0	mg/kg-dry		0.10	0.017	SW7471B	12/12/18 13:57 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	: 151	44061

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sieve 1mm-0.063mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-060
Collection Date: 11/28/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	24.3	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	61	R140712
SIEVE ANALYSIS												
No. 230 (63 um), Retained	31.2	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	55	R140479
3050 EXTRACTABLE METALS												
Aluminum	4890	mg/kg-dry	D	10	10	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Arsenic	16	mg/kg-dry		5	0.3	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Barium	105	mg/kg-dry		5	0.2	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Boron	2	mg/kg-dry	J	5	1	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
Cadmium	0.8	mg/kg-dry		0.2	0.1	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Chromium	10	mg/kg-dry		5	0.8	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Cobalt	3	mg/kg-dry	J	5	1	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Copper	71	mg/kg-dry		5	4	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
Iron	10700	mg/kg-dry	D	70	70	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
Lead	47	mg/kg-dry		5	0.5	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Manganese	450	mg/kg-dry		5	1	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
Molybdenum	0.8	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Nickel	4.7	mg/kg-dry	J	5	0.5	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Silver	0.5	mg/kg-dry	J	5	0.2	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Uranium	2.4	mg/kg-dry	J	5	0.1	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Vanadium	26	mg/kg-dry		1	0.5	SW6020	12/13/18 14:35 / sld	12/11/18 16:26	SW3050 B	ICPMS205-H_181213B	114	44100
Zinc	281	mg/kg-dry		5	4	SW6010B	12/13/18 20:42 / sld	12/11/18 16:26	SW3050 B	ICP2-HE_181213B	180	44100
METALS, TOTAL												
Mercury	0.11	mg/kg-dry		0.10	0.0021	SW7471B	12/12/18 12:12 / dck	12/07/18 14:40	SW7471B	HGCV201-H_181212A	101	44062

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT DEQ-Federal Superfund
Client Sample ID: SS-19 Sieve 2mm-1mm
Project: Silver Bow Creek SSTOU Monitoring
Matrix: Sediment

Lab ID: H18110574-061
Collection Date: 11/28/18 09:15
DateReceived: 11/30/18
Report Date: 12/19/18

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
PHYSICAL CHARACTERISTICS												
Moisture	20.4	wt%		0.2	0.02	D2974	12/18/18 11:33 / ber			RYING OVEN 2_181217B	62	R140712
SIEVE ANALYSIS												
No. 18 (1 mm), Retained	22.0	wt%-wet		0.1		SSSA 15-2	12/07/18 13:30 / swj			MISC SOILS_181207A	56	R140479
3050 EXTRACTABLE METALS												
Aluminum	3460	mg/kg-dry	D	10	10	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Antimony	ND	mg/kg-dry		5	1	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Arsenic	11	mg/kg-dry		5	0.3	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Barium	58	mg/kg-dry		5	0.2	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Beryllium	ND	mg/kg-dry		5	0.4	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Boron	3	mg/kg-dry	J	5	1	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Cadmium	0.4	mg/kg-dry		0.2	0.1	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Chromium	7	mg/kg-dry		5	0.8	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Cobalt	ND	mg/kg-dry		5	3	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Copper	45	mg/kg-dry		5	4	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Iron	6640	mg/kg-dry	D	70	70	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Lead	17	mg/kg-dry		5	0.5	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Manganese	303	mg/kg-dry		5	1	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
Molybdenum	0.4	mg/kg-dry	J	5	0.2	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Nickel	4.3	mg/kg-dry	J	5	0.5	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Selenium	ND	mg/kg-dry		5	0.5	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Silver	ND	mg/kg-dry		5	0.2	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Uranium	0.9	mg/kg-dry	J	5	0.1	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Vanadium	14	mg/kg-dry		1	0.5	SW6020	12/13/18 15:47 / sld	12/11/18 16:27	SW3050 B	ICPMS205-H_181213B	151	44101
Zinc	148	mg/kg-dry		5	4	SW6010B	12/13/18 18:39 / sld	12/11/18 16:27	SW3050 B	ICP2-HE_181213B	147	44101
METALS, TOTAL												
Mercury	0.03	mg/kg-dry	J	0.10	0.0025	SW7471B	12/12/18 13:12 / dck	12/07/18 14:43	SW7471B	HGCV201-H_181212A	131	44063

Report Definitions:
RL - Analyte reporting limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
J - Estimated value. The analyte was present but less than the reporting limit.
ND - Not detected at the reporting limit.

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 181205wa-LLhg202

Run ID :Run Order: **HGCV202-H_181205A: 58** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E245.1**

Analysis Date: **12/05/18 13:12** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.105	0.0050	0.1	0	**105**	90	110				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 181212sa-hg201

Run ID :Run Order: **HGCV201-H_181212A: 23** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 10:22** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	103	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 59** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 10:46** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	102	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 70** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 11:11** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	104	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 85** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 11:41** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 181212sa-hg201

Run ID :Run Order: **HGCV201-H_181212A: 85** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 11:41** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 97** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 12:04** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	104	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 111** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 12:32** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	105	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 121** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 12:52** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	104	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 181212sa-hg201

Run ID :Run Order: **HGCV201-H_181212A: 121** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 12:52** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 132** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 13:14** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**105**	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 143** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 13:41** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0026	0.50	0.0025	0	**104**	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43931

Run ID :Run Order: **FIA202-HE_181204A: 9** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**
Analysis Date: **12/04/18 09:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.000940	0.010		0		0	0				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181204A: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **12/04/18 09:19** Units: **mg/L** **Prep Info:** Prep Date: **11/28/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.243	0.010	0.25	0	97	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181204A: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **12/04/18 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0988	0.010	0.1	0	99	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181204A: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**
Analysis Date: **12/04/18 09:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0990	0.010	0.1	0	99	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181207B: 13** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E365.1**
Analysis Date: **12/07/18 16:10** Units: **mg/L** **Prep Info:** Prep Date: **11/28/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.243	0.010	0.25	0	97	90	110				

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43931

Run ID :Run Order: **FIA202-HE_181207B: 14** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **E365.1**

Analysis Date: **12/07/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	-0.00246	0.010		0		0	0				

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA202-HE_181207B: 28** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E365.1**

Analysis Date: **12/07/18 16:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.0941	0.010	0.1	0	**94**	90	110				

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICP2-HE_181205A: 22** SampType: **Method Blank** Lab ID: **MB-43973** Method: **E200.7**

Analysis Date: **12/05/18 13:21** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.005									
Calcium	ND	0.09									
Magnesium	ND	0.009									
Potassium	ND	0.06									
Sodium	ND	0.03									

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 23** SampType: **Laboratory Control Sample** Lab ID: **LCS-43973** Method: **E200.7**

Analysis Date: **12/05/18 13:25** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.518	0.050	0.5	0	104	85	115				
Calcium	26.1	1.0	25	0	105	85	115				
Magnesium	25.8	1.0	25	0	103	85	115				
Potassium	26.6	1.0	25	0	106	85	115				
Sodium	26.6	1.0	25	0	106	85	115				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 41** SampType: **Serial Dilution** Lab ID: **H18110574-007CDIL** Method: **E200.7**

Analysis Date: **12/05/18 14:33** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0927	0.050		0		0	0	0.08899		10	N
Calcium	63.2	1.0		0		0	0	62.28	1.5	10	
Magnesium	16.1	1.0		0		0	0	16.34	1.4	10	
Potassium	6.04	1.0		0		0	0	5.902	2.2	10	
Sodium	39.1	1.0		0		0	0	38.51	1.6	10	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICP2-HE_181205A: 42** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-007CPDS** Method: **E200.7**

Analysis Date: **12/05/18 14:37** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.12	0.050	1.03	0.08899	100	70	130				
Calcium	118	1.0	51.5	62.28	109	70	130				
Magnesium	71.8	1.0	51.5	16.34	108	70	130				
Potassium	58.9	1.0	51.5	5.902	103	70	130				
Sodium	91.9	1.0	51.5	38.51	104	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 43** SampType: **Sample Matrix Spike** Lab ID: **H18110574-007CMS3** Method: **E200.7**

Analysis Date: **12/05/18 14:41** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.603	0.050	0.5	0.08899	103	70	130				
Calcium	86.7	1.0	25	62.28	98	70	130				
Magnesium	41.6	1.0	25	16.34	101	70	130				
Potassium	33.1	1.0	25	5.902	109	70	130				
Sodium	67.5	1.0	25	38.51	116	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 44** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-007CMSD3** Method: **E200.7**

Analysis Date: **12/05/18 14:44** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.607	0.050	0.5	0.08899	104	70	130	0.6035	0.6	20	
Calcium	84.7	1.0	25	62.28	90	70	130	86.66	2.3	20	
Magnesium	40.8	1.0	25	16.34	98	70	130	41.6	1.9	20	
Potassium	33.4	1.0	25	5.902	110	70	130	33.14	0.9	20	
Sodium	68.0	1.0	25	38.51	118	70	130	67.48	0.8	20	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICP2-HE_181205A: 54** SampType: **Serial Dilution** Lab ID: **H18110574-014CDIL** Method: **E200.7**

Analysis Date: **12/05/18 15:22** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.050		0		0	0	0		10	
Calcium	ND	1.0		0		0	0	0		10	
Magnesium	ND	1.0		0		0	0	0		10	
Potassium	ND	1.0		0		0	0	0		10	
Sodium	ND	1.0		0		0	0	0		10	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 55** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-014CPDS** Method: **E200.7**

Analysis Date: **12/05/18 15:26** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.997	0.050	1.03	0	97	70	130				
Calcium	51.5	1.0	51.5	0	100	70	130				
Magnesium	52.6	1.0	51.5	0	102	70	130				
Potassium	51.7	1.0	51.5	0	100	70	130				
Sodium	51.6	1.0	51.5	0	100	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 56** SampType: **Sample Matrix Spike** Lab ID: **H18110574-014CMS3** Method: **E200.7**

Analysis Date: **12/05/18 15:30** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.514	0.050	0.5	0	103	70	130				
Calcium	25.2	1.0	25	0	101	70	130				
Magnesium	25.1	1.0	25	0	100	70	130				
Potassium	26.3	1.0	25	0	105	70	130				
Sodium	26.6	1.0	25	0	106	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICP2-HE_181205A: 57** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-014CMSD3** Method: **E200.7**

Analysis Date: **12/05/18 15:34** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.507	0.050	0.5	0	**101**	70	130	0.5135	**1.3**	20	
Calcium	26.1	1.0	25	0	**104**	70	130	25.19	**3.4**	20	
Magnesium	26.0	1.0	25	0	**104**	70	130	25.09	**3.6**	20	
Potassium	26.5	1.0	25	0	**106**	70	130	26.34	**0.5**	20	
Sodium	26.4	1.0	25	0	**106**	70	130	26.6	**0.7**	20	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181204A: 93** SampType: **Method Blank** Lab ID: **MB-43973** Method: **E200.8**

Analysis Date: **12/04/18 13:41** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0001									
Arsenic	7E-05	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	0.0001	0.0001									
Cobalt	ND	6E-05									
Copper	ND	0.0002									
Manganese	0.0009	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0001									
Selenium	ND	5E-05									
Silver	1E-05	9E-06									
Uranium	1E-05	9E-06									
Vanadium	0.0002	2E-05									
Zinc	ND	0.001									

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 112** SampType: **Sample Matrix Spike** Lab ID: **H18110574-007CMS3** Method: **E200.8**

Analysis Date: **12/04/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.59	0.030	2.5	0.09414	**100**	70	130				
Antimony	0.562	0.0010	0.5	0.000333	**112**	70	130				
Arsenic	0.520	0.0010	0.5	0.005093	**103**	70	130				
Barium	0.572	0.050	0.5	0.0459	**105**	70	130				
Beryllium	0.247	0.0010	0.25	0	**99**	70	130				
Cadmium	0.260	0.0010	0.25	0.0004443	**104**	70	130				
Chromium	0.510	0.0050	0.5	0.0002791	**102**	70	130				
Cobalt	0.508	0.0050	0.5	0.0002009	**101**	70	130				
Copper	0.561	0.0050	0.5	0.03005	**106**	70	130				
Iron	2.67	0.020	2.5	0.2129	**98**	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181204A: 112** SampType: **Sample Matrix Spike** Lab ID: **H18110574-007CMS3** Method: **E200.8**

Analysis Date: **12/04/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.541	0.0010	0.5	0.0008991	108	70	130				
Manganese	2.78	0.0010	2.5	0.1983	103	70	130				
Molybdenum	0.538	0.0010	0.5	0.004857	107	70	130				
Nickel	0.502	0.0050	0.5	0.001161	100	70	130				
Selenium	0.515	0.0010	0.5	0.0003975	103	70	130				
Silver	0.0521	0.0010	0.05	0.00002722	104	70	130				
Uranium	0.536	0.00030	0.5	0.005875	106	70	130				
Vanadium	0.525	0.010	0.5	0.002126	105	70	130				
Zinc	0.646	0.010	0.5	0.1535	99	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 113** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-007CMSD3** Method: **E200.8**

Analysis Date: **12/04/18 14:20** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.030	2.5	0.09414	99	70	130	2.59	0.7	20	
Antimony	0.561	0.0010	0.5	0.000333	112	70	130	0.5619	0.1	20	
Arsenic	0.517	0.0010	0.5	0.005093	102	70	130	0.5199	0.5	20	
Barium	0.572	0.050	0.5	0.0459	105	70	130	0.5721	0.0	20	
Beryllium	0.245	0.0010	0.25	0	98	70	130	0.2467	0.8	20	
Cadmium	0.260	0.0010	0.25	0.0004443	104	70	130	0.2598	0.1	20	
Chromium	0.507	0.0050	0.5	0.0002791	101	70	130	0.5097	0.5	20	
Cobalt	0.503	0.0050	0.5	0.0002009	100	70	130	0.5077	1.0	20	
Copper	0.551	0.0050	0.5	0.03005	104	70	130	0.5609	1.9	20	
Iron	2.71	0.020	2.5	0.2129	100	70	130	2.671	1.5	20	
Lead	0.537	0.0010	0.5	0.0008991	107	70	130	0.5408	0.6	20	
Manganese	2.78	0.0010	2.5	0.1983	103	70	130	2.775	0.2	20	
Molybdenum	0.552	0.0010	0.5	0.004857	109	70	130	0.538	2.5	20	
Nickel	0.498	0.0050	0.5	0.001161	99	70	130	0.5017	0.8	20	
Selenium	0.513	0.0010	0.5	0.0003975	102	70	130	0.5152	0.5	20	
Silver	0.0524	0.0010	0.05	0.00002722	105	70	130	0.05214	0.5	20	
Uranium	0.506	0.00030	0.5	0.005875	100	70	130	0.5363	5.8	20	
Vanadium	0.520	0.010	0.5	0.002126	103	70	130	0.5247	1.0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181204A: 113** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-007CMSD3** Method: **E200.8**

Analysis Date: **12/04/18 14:20** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.642	0.010	0.5	0.1535	**98**	70	130	0.6463	**0.7**	20	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 129** SampType: **Sample Matrix Spike** Lab ID: **H18110574-014CMS3** Method: **E200.8**

Analysis Date: **12/04/18 14:51** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.030	2.5	0	**99**	70	130				
Antimony	0.568	0.0010	0.5	0	**114**	70	130				
Arsenic	0.509	0.0010	0.5	0.00005079	**102**	70	130				
Barium	0.522	0.050	0.5	0	**104**	70	130				
Beryllium	0.252	0.0010	0.25	0	**101**	70	130				
Cadmium	0.259	0.0010	0.25	0	**104**	70	130				
Chromium	0.535	0.0050	0.5	0.0001612	**107**	70	130				
Cobalt	0.510	0.0050	0.5	0	**102**	70	130				
Copper	0.524	0.0050	0.5	0	**105**	70	130				
Iron	2.55	0.020	2.5	0	**102**	70	130				
Lead	0.548	0.0010	0.5	0	**110**	70	130				
Manganese	2.62	0.0010	2.5	0	**105**	70	130				
Molybdenum	0.548	0.0010	0.5	0	**110**	70	130				
Nickel	0.502	0.0050	0.5	0	**100**	70	130				
Selenium	0.513	0.0010	0.5	0.0000529	**103**	70	130				
Silver	0.0519	0.0010	0.05	0.00001953	**104**	70	130				
Uranium	0.521	0.00030	0.5	0.00001444	**104**	70	130				
Vanadium	0.530	0.010	0.5	0.0001716	**106**	70	130				
Zinc	0.505	0.010	0.5	0.001703	**101**	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181204A: 130** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-014CMSD3** Method: **E200.8**

Analysis Date: **12/04/18 14:53** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0	**100**	70	130	2.48	**0.6**	20	
Antimony	0.556	0.0010	0.5	0	**111**	70	130	0.5681	**2.2**	20	
Arsenic	0.510	0.0010	0.5	0.00005079	**102**	70	130	0.5086	**0.3**	20	
Barium	0.521	0.050	0.5	0	**104**	70	130	0.5222	**0.2**	20	
Beryllium	0.253	0.0010	0.25	0	**101**	70	130	0.2521	**0.3**	20	
Cadmium	0.259	0.0010	0.25	0	**104**	70	130	0.2591	**0.0**	20	
Chromium	0.529	0.0050	0.5	0.0001612	**106**	70	130	0.5348	**1.0**	20	
Cobalt	0.524	0.0050	0.5	0	**105**	70	130	0.51	**2.6**	20	
Copper	0.518	0.0050	0.5	0	**104**	70	130	0.5238	**1.1**	20	
Iron	2.54	0.020	2.5	0	**101**	70	130	2.548	**0.5**	20	
Lead	0.537	0.0010	0.5	0	**107**	70	130	0.5476	**2.0**	20	
Manganese	2.61	0.0010	2.5	0	**105**	70	130	2.623	**0.3**	20	
Molybdenum	0.540	0.0010	0.5	0	**108**	70	130	0.5482	**1.5**	20	
Nickel	0.502	0.0050	0.5	0	**101**	70	130	0.5017	**0.2**	20	
Selenium	0.511	0.0010	0.5	0.0000529	**102**	70	130	0.5132	**0.5**	20	
Silver	0.0521	0.0010	0.05	0.00001953	**104**	70	130	0.0519	**0.4**	20	
Uranium	0.509	0.00030	0.5	0.00001444	**102**	70	130	0.5206	**2.2**	20	
Vanadium	0.535	0.010	0.5	0.0001716	**107**	70	130	0.5299	**0.9**	20	
Zinc	0.503	0.010	0.5	0.001703	**100**	70	130	0.5054	**0.5**	20	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 69** SampType: **Method Blank** Lab ID: **MB-43973** Method: **E200.8**

Analysis Date: **12/05/18 13:37** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0001									
Arsenic	ND	4E-05									
Barium	ND	9E-05									
Beryllium	ND	6E-05									
Cadmium	ND	3E-05									
Chromium	0.0003	0.0001									
Cobalt	ND	6E-05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181205A: 69** SampType: **Method Blank** Lab ID: **MB-43973** Method: **E200.8**

Analysis Date: **12/05/18 13:37** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0002									
Iron	ND	0.004									
Lead	5E-05	4E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	0.0002	0.0001									
Selenium	ND	5E-05									
Uranium	ND	9E-06									
Vanadium	0.00010	2E-05									
Zinc	ND	0.001									

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 70** SampType: **Laboratory Control Sample** Lab ID: **LCS-43973** Method: **E200.8**

Analysis Date: **12/05/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.37	0.030	2.5	0	**95**	85	115				
Antimony	0.562	0.0010	0.5	0	**112**	85	115				
Arsenic	0.508	0.0010	0.5	0	**102**	85	115				
Barium	0.512	0.050	0.5	0	**102**	85	115				
Beryllium	0.239	0.0010	0.25	0	**96**	85	115				
Cadmium	0.260	0.0010	0.25	0	**104**	85	115				
Chromium	0.518	0.0050	0.5	0.0003089	**104**	85	115				
Cobalt	0.515	0.0050	0.5	0	**103**	85	115				
Copper	0.526	0.0050	0.5	0	**105**	85	115				
Iron	2.54	0.020	2.5	0	**102**	85	115				
Lead	0.505	0.0010	0.5	0.00005151	**101**	85	115				
Manganese	2.57	0.0010	2.5	0	**103**	85	115				
Molybdenum	0.525	0.0010	0.5	0	**105**	85	115				
Nickel	0.516	0.0050	0.5	0.0001986	**103**	85	115				
Selenium	0.519	0.0010	0.5	0	**104**	85	115				
Uranium	0.472	0.00030	0.5	0	**94**	85	115				
Vanadium	0.503	0.010	0.5	0.00009842	**101**	85	115				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181205A: 70** SampType: **Laboratory Control Sample** Lab ID: **LCS-43973** Method: **E200.8**

Analysis Date: **12/05/18 13:39** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.508	0.010	0.5	0	102	85	115				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 89** SampType: **Sample Matrix Spike** Lab ID: **H18110574-007CMS3** Method: **E200.8**

Analysis Date: **12/05/18 14:16** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.030	2.5	0.09611	99	70	130				
Antimony	0.569	0.0010	0.5	0.0003567	114	70	130				
Arsenic	0.522	0.0010	0.5	0.005046	103	70	130				
Barium	0.570	0.050	0.5	0.04537	105	70	130				
Beryllium	0.227	0.0010	0.25	0	91	70	130				
Cadmium	0.261	0.0010	0.25	0.0004489	104	70	130				
Chromium	0.527	0.0050	0.5	0.0002835	105	70	130				
Cobalt	0.519	0.0050	0.5	0.0002139	104	70	130				
Copper	0.561	0.0050	0.5	0.03041	106	70	130				
Iron	2.74	0.020	2.5	0.2161	101	70	130				
Lead	0.540	0.0010	0.5	0.0009309	108	70	130				
Manganese	2.73	0.0010	2.5	0.1976	101	70	130				
Molybdenum	0.557	0.0010	0.5	0.004954	110	70	130				
Nickel	0.512	0.0050	0.5	0.00123	102	70	130				
Selenium	0.505	0.0010	0.5	0.0004328	101	70	130				
Silver	0.0712	0.0010	0.05	0.0002378	142	70	130				S
Uranium	0.517	0.00030	0.5	0.005936	102	70	130				
Vanadium	0.518	0.010	0.5	0.002112	103	70	130				
Zinc	0.654	0.010	0.5	0.1523	100	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181205A: 90** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-007CMSD3** Method: **E200.8**

Analysis Date: **12/05/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.030	2.5	0.09611	99	70	130	2.581	0.8	20	
Antimony	0.578	0.0010	0.5	0.0003567	116	70	130	0.5687	1.7	20	
Arsenic	0.520	0.0010	0.5	0.005046	103	70	130	0.5221	0.3	20	
Barium	0.569	0.050	0.5	0.04537	105	70	130	0.5697	0.2	20	
Beryllium	0.233	0.0010	0.25	0	93	70	130	0.2273	2.6	20	
Cadmium	0.262	0.0010	0.25	0.0004489	105	70	130	0.2611	0.3	20	
Chromium	0.528	0.0050	0.5	0.0002835	105	70	130	0.5271	0.1	20	
Cobalt	0.508	0.0050	0.5	0.0002139	102	70	130	0.5194	2.1	20	
Copper	0.558	0.0050	0.5	0.03041	106	70	130	0.5608	0.5	20	
Iron	2.68	0.020	2.5	0.2161	99	70	130	2.738	2.2	20	
Lead	0.528	0.0010	0.5	0.0009309	106	70	130	0.5401	2.2	20	
Manganese	2.72	0.0010	2.5	0.1976	101	70	130	2.734	0.3	20	
Molybdenum	0.552	0.0010	0.5	0.004954	109	70	130	0.557	1.0	20	
Nickel	0.506	0.0050	0.5	0.00123	101	70	130	0.5124	1.4	20	
Selenium	0.509	0.0010	0.5	0.0004328	102	70	130	0.5051	0.8	20	
Silver	0.0666	0.0010	0.05	0.0002378	133	70	130	0.07115	6.5	20	S
Uranium	0.519	0.00030	0.5	0.005936	103	70	130	0.5172	0.4	20	
Vanadium	0.524	0.010	0.5	0.002112	104	70	130	0.5183	1.1	20	
Zinc	0.645	0.010	0.5	0.1523	98	70	130	0.6545	1.5	20	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 100** SampType: **Sample Matrix Spike** Lab ID: **H18110574-014CMS3** Method: **E200.8**

Analysis Date: **12/05/18 14:41** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.49	0.030	2.5	0	99	70	130				
Antimony	0.567	0.0010	0.5	0	113	70	130				
Arsenic	0.515	0.0010	0.5	0.00005644	103	70	130				
Barium	0.522	0.050	0.5	0	104	70	130				
Beryllium	0.228	0.0010	0.25	0	91	70	130				
Cadmium	0.261	0.0010	0.25	0	104	70	130				
Chromium	0.526	0.0050	0.5	0.000196	105	70	130				
Cobalt	0.524	0.0050	0.5	0	105	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181205A: 100** SampType: **Sample Matrix Spike** Lab ID: **H18110574-014CMS3** Method: **E200.8**

Analysis Date: **12/05/18 14:41** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.545	0.0050	0.5	0	109	70	130				
Iron	2.60	0.020	2.5	0	104	70	130				
Lead	0.525	0.0010	0.5	0.00004383	105	70	130				
Manganese	2.59	0.0010	2.5	0	104	70	130				
Molybdenum	0.549	0.0010	0.5	0	110	70	130				
Nickel	0.512	0.0050	0.5	0	102	70	130				
Selenium	0.516	0.0010	0.5	0.0001046	103	70	130				
Silver	0.0645	0.0010	0.05	0.0000923	129	70	130				
Uranium	0.510	0.00030	0.5	0	102	70	130				
Vanadium	0.531	0.010	0.5	0.000145	106	70	130				
Zinc	0.513	0.010	0.5	0.001559	102	70	130				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-014CMSD3** Method: **E200.8**

Analysis Date: **12/05/18 14:43** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0	100	70	130	2.486	0.7	20	
Antimony	0.579	0.0010	0.5	0	116	70	130	0.567	2.1	20	
Arsenic	0.521	0.0010	0.5	0.00005644	104	70	130	0.5151	1.1	20	
Barium	0.523	0.050	0.5	0	105	70	130	0.5218	0.3	20	
Beryllium	0.241	0.0010	0.25	0	96	70	130	0.2282	5.4	20	
Cadmium	0.262	0.0010	0.25	0	105	70	130	0.261	0.2	20	
Chromium	0.546	0.0050	0.5	0.000196	109	70	130	0.5263	3.6	20	
Cobalt	0.523	0.0050	0.5	0	105	70	130	0.5235	0.1	20	
Copper	0.540	0.0050	0.5	0	108	70	130	0.5454	1.0	20	
Iron	2.56	0.020	2.5	0	103	70	130	2.595	1.2	20	
Lead	0.540	0.0010	0.5	0.00004383	108	70	130	0.5254	2.8	20	
Manganese	2.60	0.0010	2.5	0	104	70	130	2.591	0.3	20	
Molybdenum	0.555	0.0010	0.5	0	111	70	130	0.5487	1.2	20	
Nickel	0.518	0.0050	0.5	0	104	70	130	0.5115	1.3	20	
Selenium	0.517	0.0010	0.5	0.0001046	103	70	130	0.5161	0.2	20	
Silver	0.0642	0.0010	0.05	0.0000923	128	70	130	0.06446	0.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43973

Run ID :Run Order: **ICPMS205-H_181205A: 101** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-014CMSD3** Method: **E200.8**

Analysis Date: **12/05/18 14:43** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E200.2**

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.516	0.00030	0.5	0	**103**	70	130	0.51	**1.2**	20	
Vanadium	0.544	0.010	0.5	0.000145	**109**	70	130	0.5308	**2.5**	20	
Zinc	0.520	0.010	0.5	0.001559	**104**	70	130	0.5128	**1.3**	20	

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43976

Run ID :Run Order: **FIA202-HE_181204A: 11** SampType: **Method Blank** Lab ID: **MB-43976** Method: **E365.1**
Analysis Date: **12/04/18 09:20** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181204A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43976** Method: **E365.1**
Analysis Date: **12/04/18 09:22** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.420	0.010	0.4	0	105	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181204A: 33** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004DMS** Method: **E365.1**
Analysis Date: **12/04/18 09:48** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.246	0.010	0.2	0.032	107	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Run ID :Run Order: **FIA202-HE_181204A: 34** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-004DMSD** Method: **E365.1**
Analysis Date: **12/04/18 09:49** Units: **mg/L** **Prep Info:** Prep Date: **12/3/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.251	0.010	0.2	0.032	109	90	110	0.2456	2.1	20	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43991

Run ID :Run Order: **HGCV202-H_181205A: 11** SampType: **Method Blank** Lab ID: **MB-43991** Method: **E245.1**
Analysis Date: **12/05/18 10:41** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002	0.0009									

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Run ID :Run Order: **HGCV202-H_181205A: 12** SampType: **Laboratory Control Sample** Lab ID: **LCS-43991** Method: **E245.1**
Analysis Date: **12/05/18 10:44** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0495	0.0050	0.05	0.00164	96	90	110				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Run ID :Run Order: **HGCV202-H_181205A: 14** SampType: **Sample Matrix Spike** Lab ID: **H18110573-001BMS** Method: **E245.1**
Analysis Date: **12/05/18 10:50** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0529	0.0050	0.05	0.00339	99	70	130				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Run ID :Run Order: **HGCV202-H_181205A: 15** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-001BMSD** Method: **E245.1**
Analysis Date: **12/05/18 10:54** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0534	0.0050	0.05	0.00339	100	70	130	0.05289	0.9	20	

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Run ID :Run Order: **HGCV202-H_181205A: 29** SampType: **Sample Matrix Spike** Lab ID: **H18110574-002CMS** Method: **E245.1**
Analysis Date: **12/05/18 11:39** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0539	0.0050	0.05	0.00213	104	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43991

Run ID :Run Order: **HGCV202-H_181205A: 29** SampType: **Sample Matrix Spike** Lab ID: **H18110574-002CMS** Method: **E245.1**

Analysis Date: **12/05/18 11:39** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Run ID :Run Order: **HGCV202-H_181205A: 30** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-002CMSD** Method: **E245.1**

Analysis Date: **12/05/18 11:42** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0537	0.0050	0.05	0.00213	**103**	70	130	0.05391	**0.4**	20	

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Run ID :Run Order: **HGCV202-H_181206A: 11** SampType: **Method Blank** Lab ID: **MB-43991** Method: **E245.1**

Analysis Date: **12/06/18 12:29** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43992

Run ID :Run Order: **HGCV202-H_181205A: 41** SampType: **Method Blank** Lab ID: **MB-43992** Method: **E245.1**

Analysis Date: **12/05/18 12:17** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.002	0.0009									

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **HGCV202-H_181205A: 42** SampType: **Laboratory Control Sample** Lab ID: **LCS-43992** Method: **E245.1**

Analysis Date: **12/05/18 12:21** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0535	0.0050	0.05	0.00198	103	90	110				

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **HGCV202-H_181205A: 44** SampType: **Sample Matrix Spike** Lab ID: **H18110574-007BMS** Method: **E245.1**

Analysis Date: **12/05/18 12:27** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0568	0.0050	0.05	0.00515	103	70	130				

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **HGCV202-H_181205A: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-007BMSD** Method: **E245.1**

Analysis Date: **12/05/18 12:30** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0565	0.0050	0.05	0.00515	103	70	130	0.05682	0.6	20	

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 43992

Run ID :Run Order: **HGCV202-H_181205A: 61** SampType: **Sample Matrix Spike** Lab ID: **H18110574-012CMS** Method: **E245.1**

Analysis Date: **12/05/18 13:22** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0564	0.0050	0.05	0.00538	**102**	70	130				

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **HGCV202-H_181205A: 62** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-012CMSD** Method: **E245.1**

Analysis Date: **12/05/18 13:25** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0586	0.0050	0.05	0.00538	**106**	70	130	0.05644	**3.8**	20	

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **HGCV202-H_181206A: 22** SampType: **Method Blank** Lab ID: **MB-43992** Method: **E245.1**

Analysis Date: **12/06/18 13:04** Units: **ug/L** **Prep Info:** Prep Date: **12/4/2018** Prep Method: **E245.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0009									

Associated samples: **H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44016

Run ID :Run Order: **FIA203-HE_181206A: 8** SampType: **Initial Calibration Blank, Instrument Blank** Lab ID: **ICB** Method: **A4500 N-C**

Analysis Date: **12/06/18 08:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	-0.00400	0.10		0		0	0				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 10** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **A4500 N-C**

Analysis Date: **12/06/18 08:47** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.00	0.10	1	0	100	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 22** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**

Analysis Date: **12/06/18 09:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.469	0.10	0.5	0	94	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 24** SampType: **Method Blank** Lab ID: **MB-44016** Method: **A4500 N-C**

Analysis Date: **12/06/18 09:04** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	ND	0.03									

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44016** Method: **A4500 N-C**

Analysis Date: **12/06/18 09:05** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	7.53	0.30	7.44	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44016

Run ID :Run Order: **FIA203-HE_181206A: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44016** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:05** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 27** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004AMS** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:08** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.05	0.10	1	0.08451	97	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 28** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-004AMSD** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:09** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.07	0.10	1	0.08451	98	90	110	1.05	1.5	20	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 38** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.469	0.10	0.5	0	94	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **FIA203-HE_181206A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18110574-014AMS** Method: **A4500 N-C**
Analysis Date: **12/06/18 09:29** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	1.01	0.10	1	0	101	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44016

Run ID :Run Order: **FIA203-HE_181206A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-014AMSD** Method: **A4500 N-C**

Analysis Date: **12/06/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: **12/5/2018** Prep Method: **A4500 N-C**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total	0.990	0.10	1	0	**99**	90	110	1.014	**2.4**	20	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44042

Run ID :Run Order: **FIA202-HE_181207B: 15** SampType: **Method Blank** Lab ID: **MB-44042** Method: **E365.1**
Analysis Date: **12/07/18 16:13** Units: **mg/L** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	ND	0.002									

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA202-HE_181207B: 16** SampType: **Laboratory Control Sample** Lab ID: **LCS-44042** Method: **E365.1**
Analysis Date: **12/07/18 16:14** Units: **mg/L** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.412	0.010	0.4	0	103	90	110				

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA202-HE_181207B: 18** SampType: **Sample Matrix Spike** Lab ID: **H18110574-009DMS** Method: **E365.1**
Analysis Date: **12/07/18 16:17** Units: **mg/L** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.286	0.010	0.2	0.06968	108	90	110				

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA202-HE_181207B: 19** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-009DMSD** Method: **E365.1**
Analysis Date: **12/07/18 16:18** Units: **mg/L** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.289	0.010	0.2	0.06968	110	90	110	0.2857	1.2	20	

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA202-HE_181207B: 30** SampType: **Sample Matrix Spike** Lab ID: **H18110574-016DMS** Method: **E365.1**
Analysis Date: **12/07/18 16:31** Units: **mg/L** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.279	0.010	0.2	0.06366	108	90	110				

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44042

Run ID :Run Order: **FIA202-HE_181207B: 31** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-016DMSD** Method: **E365.1**

Analysis Date: **12/07/18 16:32** Units: **mg/L** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **E365.1**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total as P	0.280	0.010	0.2	0.06366	**108**	90	110	0.2791	**0.2**	20	

Associated samples: **H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44061

Run ID :Run Order: **HGCV201-H_181212A: 16** SampType: **Method Blank** Lab ID: **MB-44061** Method: **SW7471B**
Analysis Date: **12/12/18 09:57** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **HGCV201-H_181212A: 17** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44061** Method: **SW7471B**
Analysis Date: **12/12/18 09:59** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.2	0	100	80	120				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **HGCV201-H_181212A: 18** SampType: **Laboratory Control Sample** Lab ID: **LCS-44061** Method: **SW7471B**
Analysis Date: **12/12/18 10:10** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.4	0.50	5	0	108	71	126.4				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **HGCV201-H_181212A: 139** SampType: **Sample Matrix Spike** Lab ID: **H18110574-029AMS** Method: **SW7471B**
Analysis Date: **12/12/18 13:31** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.90	0.10	0.2327	0.6463	107	80	120				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **HGCV201-H_181212A: 140** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-029AMSD** Method: **SW7471B**
Analysis Date: **12/12/18 13:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.92	0.10	0.2226	0.6463	123	80	120	0.8955	2.7	20	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44061

Run ID :Run Order: **HGCV201-H_181212A: 140** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-029AMSD** Method: **SW7471B**

Analysis Date: **12/12/18 13:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **HGCV201-H_181212A: 149** SampType: **Sample Matrix Spike** Lab ID: **H18110574-056AMS** Method: **SW7471B**

Analysis Date: **12/12/18 13:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.71	0.10	0.1609	0.5162	**119**	80	120				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **HGCV201-H_181212A: 150** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-056AMSD** Method: **SW7471B**

Analysis Date: **12/12/18 13:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.73	0.10	0.1609	0.5162	**136**	80	120	0.7079	**3.7**	20	S

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44062

Run ID :Run Order: **HGCV201-H_181212A: 72** SampType: **Method Blank** Lab ID: **MB-44062** Method: **SW7471B**
Analysis Date: **12/12/18 11:15** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **HGCV201-H_181212A: 73** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44062** Method: **SW7471B**
Analysis Date: **12/12/18 11:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.192	0	103	80	120				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **HGCV201-H_181212A: 74** SampType: **Laboratory Control Sample** Lab ID: **LCS-44062** Method: **SW7471B**
Analysis Date: **12/12/18 11:19** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.3	0.50	5	0	106	71	126.4				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **HGCV201-H_181212A: 78** SampType: **Sample Matrix Spike** Lab ID: **H18110574-018AMS** Method: **SW7471B**
Analysis Date: **12/12/18 11:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.27	0.10	0.1416	0.1149	106	80	120				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **HGCV201-H_181212A: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-018AMSD** Method: **SW7471B**
Analysis Date: **12/12/18 11:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.25	0.10	0.1416	0.1149	95	80	120	0.2656	6.1	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44062

Run ID :Run Order: **HGCV201-H_181212A: 79** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-018AMSD** Method: **SW7471B**

Analysis Date: **12/12/18 11:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **HGCV201-H_181212A: 94** SampType: **Sample Matrix Spike** Lab ID: **H18110574-048AMS** Method: **SW7471B**

Analysis Date: **12/12/18 11:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.25	0.10	0.1276	0.1185	**101**	80	120				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **HGCV201-H_181212A: 95** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-048AMSD** Method: **SW7471B**

Analysis Date: **12/12/18 12:00** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.24	0.10	0.1225	0.1185	**95**	80	120	0.2477	**5.1**	20	

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44063

Run ID :Run Order: **HGCV201-H_181212A: 102** SampType: **Method Blank** Lab ID: **MB-44063** Method: **SW7471B**
Analysis Date: **12/12/18 12:14** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.003									

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 103** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44063** Method: **SW7471B**
Analysis Date: **12/12/18 12:16** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.50	0.19	0	104	80	120				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 104** SampType: **Laboratory Control Sample** Lab ID: **LCS-44063** Method: **SW7471B**
Analysis Date: **12/12/18 12:18** Units: **mg/kg** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.4	0.50	5	0	108	71	126.4				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 108** SampType: **Sample Matrix Spike** Lab ID: **H18110574-019AMS** Method: **SW7471B**
Analysis Date: **12/12/18 12:26** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.15	0.10	0.1198	0.06241	73	80	120				S

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-019AMSD** Method: **SW7471B**
Analysis Date: **12/12/18 12:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.15	0.10	0.1248	0.06241	72	80	120	0.1504	1.0	20	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44063

Run ID :Run Order: **HGCV201-H_181212A: 109** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-019AMSD** Method: **SW7471B**

Analysis Date: **12/12/18 12:28** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 126** SampType: **Sample Matrix Spike** Lab ID: **H18110574-049AMS** Method: **SW7471B**

Analysis Date: **12/12/18 13:02** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.20	0.10	0.1162	0.02819	152	80	120				S

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 127** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-049AMSD** Method: **SW7471B**

Analysis Date: **12/12/18 13:04** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/7/2018** Prep Method: **SW7471B**

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.14	0.10	0.1137	0.02819	102	80	120	0.2049	35	20	R

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181212B: 26** SampType: **Method Blank** Lab ID: **MB-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Barium	ND	0.03									
Boron	ND	0.2									
Copper	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 27** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:21** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	280	5.0	260	0	108	80	120				
Barium	57.3	1.0	52	0	110	80	120				
Boron	55.6	1.0	52	0	107	80	120				
Copper	56.2	1.0	52	0	108	80	120				
Iron	270	11	260	0	104	80	120				
Manganese	270	1.0	260	0	104	80	120				
Zinc	52.6	1.0	52	0	101	80	120				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9910	10	9830	0	101	46.3	130.2				
Barium	169	1.0	187	0	90	78.6	112.8				
Boron	114	1.0	129	0	88	59.5	106.2				
Copper	124	2.8	137	0	91	76.6	108.8				
Iron	15800	56	16300	0	97	51.7	131.9				
Manganese	418	1.0	434	0	96	81.1	116.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181212B: 28** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6010B**

Analysis Date: **12/12/18 12:24** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	236	3.1	231	0	102	75.3	111.7				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 34** SampType: **Serial Dilution** Lab ID: **H18110573-010ADIL** Method: **SW6010B**

Analysis Date: **12/12/18 12:47** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24000	110		0		0	0	23340	2.7	10	
Barium	335	1.7		0		0	0	325.8	2.9	10	
Boron	ND	11		0		0	0	10.88		10	
Copper	2750	31		0		0	0	2647	3.6	10	
Iron	47800	620		0		0	0	46100	3.6	10	
Manganese	2250	9.5		0		0	0	2218	1.6	10	
Zinc	4490	34		0		0	0	4359	2.9	10	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 35** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-010APDS** Method: **SW6010B**

Analysis Date: **12/12/18 12:50** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26400	23	2924	23340		75	125				A
Barium	882	1.0	584.8	325.8	95	75	125				
Boron	553	2.2	584.8	10.88	93	75	125				
Copper	3230	6.4	584.8	2647		75	125				A
Iron	47600	130	2924	46100		75	125				A
Manganese	4820	2.0	2924	2218	89	75	125				
Zinc	4850	7.0	584.8	4359		75	125				A

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181212B: 36** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW6010B**

Analysis Date: **12/12/18 12:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25700	22	566.7	23340		75	125				A
Barium	426	1.0	113.3	325.8	89	75	125				
Boron	122	2.1	113.3	10.88	98	75	125				
Copper	2700	6.2	113.3	2647		75	125				A
Iron	46600	120	566.7	46100		75	125				A
Manganese	2780	1.9	566.7	2218	99	75	125				
Zinc	4440	6.8	113.3	4359		75	125				A

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 37** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW6010B**

Analysis Date: **12/12/18 12:58** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24900	22	550.5	23340		75	125	25660	3.0	20	A
Barium	415	1.0	110.1	325.8	81	75	125	426.3	2.7	20	
Boron	118	2.1	110.1	10.88	97	75	125	122.2	3.7	20	
Copper	2700	6.1	110.1	2647		75	125	2696	0.2	20	A
Iron	46000	120	550.5	46100		75	125	46550	1.2	20	A
Manganese	2720	1.9	550.5	2218		75	125	2777	2.0	20	A
Zinc	4420	6.6	110.1	4359		75	125	4441	0.4	20	A

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181213B: 158** SampType: **Serial Dilution** Lab ID: **H18110573-007ADIL** Method: **SW6010B**

Analysis Date: **12/13/18 19:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20800	100		0		0	0	20450	1.9	10	
Barium	311	1.5		0		0	0	305.2	1.9	10	
Boron	24.0	9.6		0		0	0	14.6		10	N
Copper	258	28		0		0	0	236.7		10	N
Iron	38700	550		0		0	0	37540	3.1	10	
Manganese	2040	8.6		0		0	0	2000	1.8	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181213B: 158** SampType: **Serial Dilution** Lab ID: **H18110573-007ADIL** Method: **SW6010B**

Analysis Date: **12/13/18 19:20** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	421	31		0		0	0	386.4	**8.5**	10	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181213B: 159** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-007APDS** Method: **SW6010B**

Analysis Date: **12/13/18 19:24** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	22900	21	2621	20450		75	125				A
Barium	777	1.0	524.2	305.2	**90**	75	125				
Boron	503	2.0	524.2	14.6	**93**	75	125				
Copper	714	5.8	524.2	236.7	**91**	75	125				
Iron	39000	110	2621	37540		75	125				A
Manganese	4420	1.8	2621	2000	**92**	75	125				
Zinc	891	6.3	524.2	386.4	**96**	75	125				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181213B: 160** SampType: **Sample Matrix Spike** Lab ID: **H18110573-007AMS** Method: **SW6010B**

Analysis Date: **12/13/18 19:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	24300	21	533	20450		75	125				A
Barium	432	1.0	106.6	305.2	**119**	75	125				
Boron	121	2.0	106.6	14.6	**99**	75	125				
Copper	350	5.9	106.6	236.7	**107**	75	125				
Iron	39700	120	533	37540		75	125				A
Manganese	2590	1.8	533	2000	**110**	75	125				
Zinc	530	6.4	106.6	386.4	**135**	75	125				S

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICP2-HE_181213B: 163** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-007AMSD** Method: **SW6010B**

Analysis Date: **12/13/18 19:38** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	25700	20	510.5	20450		75	125	24340	**5.6**	20	A
Barium	424	1.0	102.1	305.2	**116**	75	125	431.7	**1.9**	20	
Boron	114	1.9	102.1	14.6	**97**	75	125	120.5	**5.8**	20	
Copper	351	5.6	102.1	236.7	**112**	75	125	350.4	**0.1**	20	
Iron	38500	110	510.5	37540		75	125	39680	**3.0**	20	A
Manganese	2290	1.7	510.5	2000	**58**	75	125	2587	**12**	20	S
Zinc	498	6.2	102.1	386.4	**109**	75	125	530.3	**6.3**	20	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 42** SampType: **Method Blank** Lab ID: **MB-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:15** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	ND	0.04									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	80									
Chromium	0.1	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									
Molybdenum	0.09	0.03									
Nickel	ND	0.07									
Selenium	ND	0.07									
Silver	0.4	0.03									
Uranium	ND	0.02									
Vanadium	0.08	0.07									

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 43** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	68.1	1.0	240	0	**28**	0	92.9				
Arsenic	176	1.0	196	0	**90**	71.4	105.1				
Beryllium	73.7	1.0	83.6	0	**88**	76.2	108				
Cadmium	101	1.0	99	0	**102**	73.9	106.1				
Calcium	6120	440	6360	0	**96**	78.9	113.5				
Chromium	115	1.0	117	0.1236	**98**	73.5	108.5				
Cobalt	112	1.0	108	0	**104**	74.2	105.6				
Lead	107	1.0	105	0	**102**	74.4	108.6				
Molybdenum	122	1.0	127	0.08605	**96**	66.5	103.1				
Nickel	87.1	1.0	86.2	0	**101**	72.3	105				
Selenium	200	1.0	205	0	**98**	71.2	110.2				
Silver	45.0	1.0	42.1	0.3656	**106**	70.8	111.9				
Uranium	101	1.0	99.9	0	**101**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 43** SampType: **Laboratory Control Sample** Lab ID: **LCS-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:17** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	113	1.0	114	0.08073	99	67	107				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 48** SampType: **Serial Dilution** Lab ID: **H18110573-010ADIL** Method: **SW6020**

Analysis Date: **12/13/18 12:27** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	9.6		0		0	0	2.08		10	
Arsenic	320	2.2		0		0	0	317.3	0.7	10	
Beryllium	ND	3.3		0		0	0	0.8194		10	
Cadmium	21.6	1.0		0		0	0	21.02	2.7	10	
Calcium	13000	4900		0		0	0	12470		10	N
Chromium	65.3	6.9		0		0	0	66.36		10	N
Cobalt	17.0	11		0		0	0	17.2		10	N
Lead	673	4.1		0		0	0	668.1	0.8	10	
Molybdenum	16.8	1.9		0		0	0	16.33		10	N
Nickel	30.7	4.3		0		0	0	30.47		10	N
Selenium	ND	4.0		0		0	0	1.837		10	
Silver	8.58	1.9		0		0	0	8.977		10	N
Uranium	11.2	1.1		0		0	0	10.76		10	N
Vanadium	99.0	4.2		0		0	0	98.21	0.8	10	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 49** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-010APDS1** Method: **SW6020**

Analysis Date: **12/13/18 12:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	61.8	1.9	56.78	2.08	105	75	125				
Arsenic	363	1.0	56.78	317.3		75	125				A
Beryllium	51.1	1.0	56.78	0.8194	89	75	125				
Cadmium	79.0	1.0	56.78	21.02	102	75	125				
Calcium	13400	990	1136	12470		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 49** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-010APDS1** Method: **SW6020**

Analysis Date: **12/13/18 12:29** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	120	1.4	56.78	66.36	**94**	75	125				
Cobalt	74.2	2.1	56.78	17.2	**100**	75	125				
Lead	699	1.0	56.78	668.1		75	125				A
Molybdenum	73.7	1.0	56.78	16.33	**101**	75	125				
Nickel	86.9	1.0	56.78	30.47	**99**	75	125				
Selenium	58.4	1.0	56.78	1.837	**100**	75	125				
Silver	33.0	1.0	22.71	8.977	**106**	75	125				
Uranium	65.3	1.0	56.78	10.76	**96**	75	125				
Vanadium	151	1.0	56.78	98.21	**92**	75	125				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 50** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44088** Method: **SW6020**

Analysis Date: **12/13/18 12:31** Units: **mg/kg** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	56.9	1.0	52	0	**109**	80	120				
Arsenic	54.8	1.0	52	0	**105**	80	120				
Beryllium	24.7	1.0	26	0	**95**	80	120				
Cadmium	28.4	1.0	26	0	**109**	80	120				
Calcium	2640	450	2600	0	**102**	80	120				
Chromium	55.4	1.0	52	0.1236	**106**	80	120				
Cobalt	56.2	1.0	52	0	**108**	80	120				
Lead	55.8	1.0	52	0	**107**	80	120				
Molybdenum	54.9	1.0	52	0.08605	**105**	80	120				
Nickel	56.8	1.0	52	0	**109**	80	120				
Selenium	54.2	1.0	52	0	**104**	80	120				
Silver	29.5	1.0	26	0.3656	**112**	80	120				
Uranium	55.2	1.0	52	0	**106**	80	120				
Vanadium	54.1	1.0	52	0.08073	**104**	80	120				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 51** SampType: **Sample Matrix Spike** Lab ID: **H18110573-010AMS** Method: **SW6020**

Analysis Date: **12/13/18 12:33** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.5	1.9	113.3	2.08	44	75	125				S
Arsenic	429	1.0	113.3	317.3	99	75	125				
Beryllium	53.3	1.0	56.67	0.8194	93	75	125				
Cadmium	79.9	1.0	56.67	21.02	104	75	125				
Calcium	18700	990	5667	12470	111	75	125				E
Chromium	183	1.4	113.3	66.36	103	75	125				
Cobalt	135	2.1	113.3	17.2	104	75	125				
Lead	759	1.0	113.3	668.1		75	125				A
Molybdenum	132	1.0	113.3	16.33	102	75	125				
Nickel	148	1.0	113.3	30.47	103	75	125				
Selenium	118	1.0	113.3	1.837	102	75	125				
Silver	70.8	1.0	56.67	8.977	109	75	125				
Uranium	125	1.0	113.3	10.76	101	75	125				
Vanadium	217	1.0	113.3	98.21	104	75	125				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW6020**

Analysis Date: **12/13/18 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.1	1.9	110.1	2.08	45	75	125	52.46	0.6	20	S
Arsenic	429	1.0	110.1	317.3	102	75	125	429.3	0.0	20	
Beryllium	50.7	1.0	55.05	0.8194	91	75	125	53.27	5.0	20	
Cadmium	77.1	1.0	55.05	21.02	102	75	125	79.88	3.5	20	
Calcium	18200	960	5505	12470	104	75	125	18730	3.1	20	E
Chromium	184	1.3	110.1	66.36	107	75	125	183.5	0.3	20	
Cobalt	131	2.1	110.1	17.2	103	75	125	134.8	3.2	20	
Lead	749	1.0	110.1	668.1		75	125	759.2	1.3	20	A
Molybdenum	126	1.0	110.1	16.33	99	75	125	132.4	5.2	20	
Nickel	147	1.0	110.1	30.47	106	75	125	147.6	0.5	20	
Selenium	113	1.0	110.1	1.837	101	75	125	117.9	3.9	20	
Silver	68.3	1.0	55.05	8.977	108	75	125	70.78	3.6	20	
Uranium	118	1.0	110.1	10.76	97	75	125	125	5.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 52** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-010AMSD** Method: **SW6020**

Analysis Date: **12/13/18 12:35** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	214	1.0	110.1	98.21	**105**	75	125	216.6	**1.4**	20	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 87** SampType: **Serial Dilution** Lab ID: **H18110573-007ADIL** Method: **SW6020**

Analysis Date: **12/13/18 13:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	8.6		0		0	0	0		10	
Arsenic	48.2	2.0		0		0	0	48.41	**0.5**	10	
Beryllium	ND	3.0		0		0	0	0.7746		10	
Cadmium	1.36	1.0		0		0	0	1.423		10	N
Calcium	14600	4400		0		0	0	14720		10	N
Chromium	97.0	6.2		0		0	0	97.56	**0.6**	10	
Cobalt	11.3	9.6		0		0	0	11.36		10	N
Lead	261	3.7		0		0	0	268	**2.5**	10	
Molybdenum	17.4	1.7		0		0	0	17.5	**0.3**	10	
Nickel	46.6	3.8		0		0	0	46.65	**0.2**	10	
Selenium	ND	3.5		0		0	0	1.725		10	
Silver	ND	1.7		0		0	0	1.668		10	
Uranium	10.4	1.0		0		0	0	10.43	**0.3**	10	
Vanadium	106	3.7		0		0	0	106.3	**0.1**	10	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 91** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-007APDS1** Method: **SW6020**

Analysis Date: **12/13/18 13:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	54.9	1.7	50.9	0	**108**	75	125				
Arsenic	98.4	1.0	50.9	48.41	**98**	75	125				
Beryllium	45.0	1.0	50.9	0.7746	**87**	75	125				
Cadmium	53.5	1.0	50.9	1.423	**102**	75	125				
Calcium	15500	890	1018	14720		75	125				A

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 91** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110573-007APDS1** Method: **SW6020**

Analysis Date: **12/13/18 13:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/10/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	146	1.2	50.9	97.56	96	75	125				
Cobalt	62.9	1.9	50.9	11.36	101	75	125				
Lead	316	1.0	50.9	268		75	125				A
Molybdenum	69.7	1.0	50.9	17.5	103	75	125				
Nickel	98.4	1.0	50.9	46.65	102	75	125				
Selenium	52.4	1.0	50.9	1.725	100	75	125				
Silver	23.5	1.0	20.36	1.668	107	75	125				
Uranium	60.0	1.0	50.9	10.43	97	75	125				
Vanadium	156	1.0	50.9	106.3	98	75	125				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICPMS205-H_181213B: 92** SampType: **Sample Matrix Spike** Lab ID: **H18110573-007AMS** Method: **SW6020**

Analysis Date: **12/13/18 13:52** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	44.6	1.8	106.6	0	42	75	125				S
Arsenic	164	1.0	106.6	48.41	108	75	125				
Beryllium	48.6	1.0	53.3	0.7746	90	75	125				
Cadmium	58.7	1.0	53.3	1.423	107	75	125				
Calcium	20400	930	5330	14720	107	75	125				E
Chromium	219	1.3	106.6	97.56	114	75	125				
Cobalt	126	2.0	106.6	11.36	107	75	125				
Lead	418	1.0	106.6	268	140	75	125				S
Molybdenum	130	1.0	106.6	17.5	105	75	125				
Nickel	164	1.0	106.6	46.65	110	75	125				
Selenium	112	1.0	106.6	1.725	104	75	125				
Silver	61.0	1.0	53.3	1.668	111	75	125				
Uranium	124	1.0	106.6	10.43	106	75	125				
Vanadium	228	1.0	106.6	106.3	114	75	125				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44088

Run ID :Run Order: **ICPMS205-H_181213B: 93** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-007AMSD** Method: **SW6020**

Analysis Date: **12/13/18 13:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	41.4	1.7	102.1	0	41	75	125	44.58	7.4	20	S
Arsenic	152	1.0	102.1	48.41	102	75	125	163.7	7.1	20	
Beryllium	46.6	1.0	51.05	0.7746	90	75	125	48.58	4.2	20	
Cadmium	56.1	1.0	51.05	1.423	107	75	125	58.69	4.4	20	
Calcium	23100	890	5105	14720	164	75	125	20400	12	20	SE
Chromium	214	1.2	102.1	97.56	114	75	125	219.2	2.5	20	
Cobalt	117	1.9	102.1	11.36	104	75	125	125.7	6.8	20	
Lead	406	1.0	102.1	268	135	75	125	417.7	2.9	20	S
Molybdenum	130	1.0	102.1	17.5	110	75	125	129.7	0.2	20	
Nickel	158	1.0	102.1	46.65	109	75	125	164.1	3.8	20	
Selenium	106	1.0	102.1	1.725	102	75	125	112.1	5.9	20	
Silver	57.9	1.0	51.05	1.668	110	75	125	61.03	5.3	20	
Uranium	115	1.0	102.1	10.43	102	75	125	123.8	7.3	20	
Vanadium	216	1.0	102.1	106.3	108	75	125	227.9	5.2	20	

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICP2-HE_181213B: 154** SampType: **Method Blank** Lab ID: **MB-44100** Method: **SW6010B**

Analysis Date: **12/13/18 19:05** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Barium	ND	0.03									
Boron	0.4	0.2									
Copper	ND	0.5									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICP2-HE_181213B: 155** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44100** Method: **SW6010B**

Analysis Date: **12/13/18 19:09** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	266	5.0	262.5	0	101	80	120				
Barium	53.6	1.0	52.5	0	102	80	120				
Boron	54.9	1.0	52.5	0.3814	104	80	120				
Copper	53.0	1.0	52.5	0	101	80	120				
Iron	279	11	262.5	0	106	80	120				
Manganese	274	1.0	262.5	0	104	80	120				
Zinc	54.4	1.0	52.5	0	104	80	120				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICP2-HE_181213B: 156** SampType: **Laboratory Control Sample** Lab ID: **LCS-44100** Method: **SW6010B**

Analysis Date: **12/13/18 19:12** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9960	9.9	9928	0	100	46.3	130.2				
Barium	167	1.0	188.9	0	88	78.6	112.8				
Boron	117	1.0	130.3	0.3814	89	59.5	106.2				
Copper	122	2.8	138.4	0	88	76.6	108.8				
Iron	15900	55	16460	0	97	51.7	131.9				
Manganese	429	1.0	438.3	0	98	81.1	116.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICP2-HE_181213B: 156** SampType: **Laboratory Control Sample** Lab ID: **LCS-44100** Method: **SW6010B**

Analysis Date: **12/13/18 19:12** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	246	3.0	233.3	0	105	75.3	111.7				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICP2-HE_181213B: 181** SampType: **Serial Dilution** Lab ID: **H18110574-060ADIL** Method: **SW6010B**

Analysis Date: **12/13/18 20:45** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4900	65		0		0	0	4888	0.3	10	
Barium	105	1.0		0		0	0	104.8	0.0	10	
Boron	ND	6.2		0		0	0	2.365		10	
Copper	75.3	18		0		0	0	71.36		10	N
Iron	10900	360		0		0	0	10680	1.9	10	
Manganese	456	5.6		0		0	0	450.4	1.3	10	
Zinc	290	20		0		0	0	280.6	3.2	10	

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICP2-HE_181213B: 182** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-060APDS** Method: **SW6010B**

Analysis Date: **12/13/18 20:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6660	13	1701	4888	104	75	125				
Barium	429	1.0	340.2	104.8	95	75	125				
Boron	328	1.3	340.2	2.365	96	75	125				
Copper	394	3.7	340.2	71.36	95	75	125				
Iron	12600	74	1701	10680		75	125				A
Manganese	2170	1.1	1701	450.4	101	75	125				
Zinc	623	4.1	340.2	280.6	101	75	125				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICP2-HE_181213B: 183** SampType: **Sample Matrix Spike** Lab ID: **H18110574-060AMS** Method: **SW6010B**

Analysis Date: **12/13/18 20:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5910	13	328	4888		75	125				A
Barium	162	1.0	65.59	104.8	88	75	125				
Boron	70.8	1.2	65.59	2.365	104	75	125				
Copper	145	3.6	65.59	71.36	112	75	125				
Iron	10700	71	328	10680		75	125				A
Manganese	801	1.1	328	450.4	107	75	125				
Zinc	332	3.9	65.59	280.6		75	125				A

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICP2-HE_181213B: 184** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-060AMSD** Method: **SW6010B**

Analysis Date: **12/13/18 20:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5830	13	322	4888		75	125	5907	1.3	20	A
Barium	154	1.0	64.41	104.8	76	75	125	162.4	5.3	20	
Boron	68.1	1.2	64.41	2.365	102	75	125	70.75	3.9	20	
Copper	154	3.5	64.41	71.36	128	75	125	144.9	6.1	20	S
Iron	10900	70	322	10680		75	125	10730	1.4	20	A
Manganese	801	1.1	322	450.4	109	75	125	800.8	0.1	20	
Zinc	357	3.9	64.41	280.6		75	125	331.9	7.3	20	A

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICPMS205-H_181213B: 83** SampType: **Method Blank** Lab ID: **MB-44100** Method: **SW6020**

Analysis Date: **12/13/18 13:35** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	ND	0.04									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.07									
Molybdenum	ND	0.03									
Nickel	ND	0.07									
Selenium	ND	0.07									
Silver	0.2	0.03									
Uranium	ND	0.02									
Vanadium	ND	0.07									

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICPMS205-H_181213B: 90** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44100** Method: **SW6020**

Analysis Date: **12/13/18 13:49** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	57.4	1.0	52.5	0	**109**	80	120				
Arsenic	55.0	1.0	52.5	0	**105**	80	120				
Beryllium	24.6	1.0	26.25	0	**94**	80	120				
Cadmium	28.2	1.0	26.25	0	**107**	80	120				
Calcium	2670	460	2625	0	**102**	80	120				
Chromium	55.9	1.0	52.5	0	**106**	80	120				
Cobalt	56.6	1.0	52.5	0	**108**	80	120				
Lead	56.3	1.0	52.5	0	**107**	80	120				
Molybdenum	56.4	1.0	52.5	0	**107**	80	120				
Nickel	56.6	1.0	52.5	0	**108**	80	120				
Selenium	54.6	1.0	52.5	0	**104**	80	120				
Silver	29.3	1.0	26.25	0.176	**111**	80	120				
Uranium	56.1	1.0	52.5	0	**107**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICPMS205-H_181213B: 90** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44100** Method: **SW6020**

Analysis Date: **12/13/18 13:49** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	54.9	1.0	52.5	0	105	80	120				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICPMS205-H_181213B: 115** SampType: **Serial Dilution** Lab ID: **H18110574-060ADIL** Method: **SW6020**

Analysis Date: **12/13/18 14:37** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.6		0		0	0	0		10	
Arsenic	16.4	1.3		0		0	0	15.96	2.8	10	
Beryllium	ND	1.9		0		0	0	0		10	
Cadmium	0.826	1.0		0		0	0	0.8323		10	N
Calcium	ND	2900		0		0	0	2425		10	
Chromium	9.82	4.0		0		0	0	9.77		10	N
Cobalt	ND	6.2		0		0	0	3.381		10	
Lead	46.4	2.4		0		0	0	46.92	1.2	10	
Molybdenum	ND	1.1		0		0	0	0.8455		10	
Nickel	4.77	2.5		0		0	0	4.729		10	N
Selenium	ND	2.3		0		0	0	0		10	
Silver	ND	1.1		0		0	0	0.4917		10	
Uranium	2.37	1.0		0		0	0	2.418		10	N
Vanadium	26.8	2.4		0		0	0	26.23	2.0	10	

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICPMS205-H_181213B: 116** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-060APDS1** Method: **SW6020**

Analysis Date: **12/13/18 14:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	35.4	1.1	33.03	0	107	75	125				
Arsenic	49.7	1.0	33.03	15.96	102	75	125				
Beryllium	30.3	1.0	33.03	0	92	75	125				
Cadmium	34.7	1.0	33.03	0.8323	102	75	125				
Calcium	3090	570	660.6	2425	100	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICPMS205-H_181213B: 116** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-060APDS1** Method: **SW6020**

Analysis Date: **12/13/18 14:39** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	43.4	1.0	33.03	9.77	102	75	125				
Cobalt	37.1	1.2	33.03	3.381	102	75	125				
Lead	80.2	1.0	33.03	46.92	101	75	125				
Molybdenum	34.4	1.0	33.03	0.8455	102	75	125				
Nickel	39.6	1.0	33.03	4.729	106	75	125				
Selenium	32.9	1.0	33.03	0	100	75	125				
Silver	14.8	1.0	13.21	0.4917	108	75	125				
Uranium	34.9	1.0	33.03	2.418	98	75	125				
Vanadium	59.3	1.0	33.03	26.23	100	75	125				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICPMS205-H_181213B: 117** SampType: **Sample Matrix Spike** Lab ID: **H18110574-060AMS** Method: **SW6020**

Analysis Date: **12/13/18 14:41** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	52.8	1.1	65.59	0	81	75	125				
Arsenic	88.9	1.0	65.59	15.96	111	75	125				
Beryllium	31.8	1.0	32.8	0	97	75	125				
Cadmium	36.8	1.0	32.8	0.8323	110	75	125				
Calcium	5630	570	3280	2425	98	75	125				E
Chromium	81.6	1.0	65.59	9.77	110	75	125				
Cobalt	75.1	1.2	65.59	3.381	109	75	125				
Lead	126	1.0	65.59	46.92	120	75	125				
Molybdenum	71.3	1.0	65.59	0.8455	107	75	125				
Nickel	77.9	1.0	65.59	4.729	112	75	125				
Selenium	69.7	1.0	65.59	0	106	75	125				
Silver	38.1	1.0	32.8	0.4917	115	75	125				
Uranium	75.0	1.0	65.59	2.418	111	75	125				
Vanadium	94.8	1.0	65.59	26.23	105	75	125				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICPMS205-H_181213B: 118** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-060AMSD** Method: **SW6020**

Analysis Date: **12/13/18 14:43** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.7	1.1	64.41	0	79	75	125	52.84	4.2	20	
Arsenic	87.8	1.0	64.41	15.96	112	75	125	88.86	1.2	20	
Beryllium	31.0	1.0	32.2	0	96	75	125	31.83	2.7	20	
Cadmium	36.4	1.0	32.2	0.8323	111	75	125	36.83	1.1	20	
Calcium	5880	560	3220	2425	107	75	125	5630	4.3	20	E
Chromium	79.4	1.0	64.41	9.77	108	75	125	81.65	2.8	20	
Cobalt	74.1	1.2	64.41	3.381	110	75	125	75.1	1.3	20	
Lead	115	1.0	64.41	46.92	106	75	125	125.7	8.9	20	
Molybdenum	70.5	1.0	64.41	0.8455	108	75	125	71.3	1.2	20	
Nickel	77.0	1.0	64.41	4.729	112	75	125	77.91	1.1	20	
Selenium	67.4	1.0	64.41	0	105	75	125	69.72	3.4	20	
Silver	37.8	1.0	32.2	0.4917	116	75	125	38.07	0.8	20	
Uranium	70.6	1.0	64.41	2.418	106	75	125	74.97	6.0	20	
Vanadium	96.3	1.0	64.41	26.23	109	75	125	94.82	1.5	20	

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Run ID :Run Order: **ICPMS205-H_181214C: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44100** Method: **SW6020**

Analysis Date: **12/14/18 15:10** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	67.5	1.0	242.4	0	28	0	92.9				
Arsenic	177	1.0	198	0	89	71.4	105.1				
Beryllium	75.1	1.0	84.44	0	89	76.2	108				
Cadmium	100	1.0	99.99	0	100	73.9	106.1				
Calcium	5870	440	6424	0	91	78.9	113.5				
Chromium	115	1.0	118.2	0	97	73.5	108.5				
Cobalt	112	1.0	109.1	0	103	74.2	105.6				
Lead	106	1.0	106	0	100	74.4	108.6				
Molybdenum	122	1.0	128.3	0	95	66.5	103.1				
Nickel	86.5	1.0	87.06	0	99	72.3	105				
Selenium	199	1.0	207	0.1906	96	71.2	110.2				
Silver	45.9	1.0	42.52	2.12	103	70.8	111.9				
Uranium	101	1.0	100.9	0	100	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44100

Run ID :Run Order: **ICPMS205-H_181214C: 25** SampType: **Laboratory Control Sample** Lab ID: **LCS-44100** Method: **SW6020**

Analysis Date: **12/14/18 15:10** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	113	1.0	115.1	0.07383	**98**	67	107				

Associated samples: **H18110574-018A, H18110574-021A, H18110574-024A, H18110574-027A, H18110574-030A, H18110574-033A, H18110574-036A, H18110574-039A, H18110574-042A, H18110574-045A, H18110574-048A, H18110574-051A, H18110574-054A, H18110574-057A, H18110574-060A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICP2-HE_181213B: 120** SampType: **Method Blank** Lab ID: **MB-44101** Method: **SW6010B**

Analysis Date: **12/13/18 16:57** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	2									
Barium	ND	0.03									
Boron	ND	0.2									
Cobalt	ND	0.5									
Copper	ND	0.6									
Iron	ND	10									
Manganese	ND	0.2									
Zinc	ND	0.6									

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 121** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44101** Method: **SW6010B**

Analysis Date: **12/13/18 17:01** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	252	5.0	250	0	**101**	80	120				
Barium	51.2	1.0	50	0	**102**	80	120				
Boron	50.2	1.0	50	0	**100**	80	120				
Cobalt	49.0	1.0	50	0	**98**	80	120				
Copper	50.2	1.0	50	0	**100**	80	120				
Iron	264	11	250	0	**106**	80	120				
Manganese	248	1.0	250	0	**99**	80	120				
Zinc	48.8	1.0	50	0	**98**	80	120				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 122** SampType: **Laboratory Control Sample** Lab ID: **LCS-44101** Method: **SW6010B**

Analysis Date: **12/13/18 17:05** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9470	10	9830	0	**96**	46.3	130.2				
Barium	175	1.0	187	0	**94**	78.6	112.8				
Boron	106	1.0	129	0	**82**	59.5	106.2				
Cobalt	92.3	2.5	108	0	**85**	74.2	105.6				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICP2-HE_181213B: 122** SampType: **Laboratory Control Sample** Lab ID: **LCS-44101** Method: **SW6010B**

Analysis Date: **12/13/18 17:05** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	117	2.8	137	0	86	76.6	108.8				
Iron	15700	56	16300	0	96	51.7	131.9				
Manganese	403	1.0	434	0	93	81.1	116.6				
Zinc	223	3.1	231	0	97	75.3	111.7				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 148** SampType: **Serial Dilution** Lab ID: **H18110574-061ADIL** Method: **SW6010B**

Analysis Date: **12/13/18 18:42** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3410	64		0		0	0	3461	1.4	10	
Barium	56.7	1.0		0		0	0	58.13	2.5	10	
Boron	7.97	6.1		0		0	0	2.607		10	N
Cobalt	-0.617	1.0		0		0	0	0		10	
Copper	45.6	18		0		0	0	44.87		10	N
Iron	6590	360		0		0	0	6643	0.8	10	
Manganese	300	5.5		0		0	0	303.4	1.2	10	
Zinc	153	20		0		0	0	148.3		10	N

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 151** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-061APDS** Method: **SW6010B**

Analysis Date: **12/13/18 18:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5180	13	1686	3461	102	75	125				
Barium	377	1.0	337.2	58.13	95	75	125				
Boron	334	1.3	337.2	2.607	98	75	125				
Cobalt	342	1.0	337.2	0	101	75	125				
Copper	363	3.7	337.2	44.87	94	75	125				
Iron	8500	73	1686	6643	110	75	125				
Manganese	2010	1.1	1686	303.4	102	75	125				
Zinc	495	4.1	337.2	148.3	103	75	125				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICP2-HE_181213B: 151** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-061APDS** Method: **SW6010B**

Analysis Date: **12/13/18 18:54** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 152** SampType: **Sample Matrix Spike** Lab ID: **H18110574-061AMS** Method: **SW6010B**

Analysis Date: **12/13/18 18:57** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5430	12	300.3	3461		75	125				A
Barium	191	1.0	60.07	58.13	222	75	125				S
Boron	65.2	1.1	60.07	2.607	104	75	125				
Cobalt	64.8	1.0	60.07	0	108	75	125				
Copper	105	3.3	60.07	44.87	99	75	125				
Iron	7590	65	300.3	6643		75	125				A
Manganese	637	1.0	300.3	303.4	111	75	125				
Zinc	214	3.6	60.07	148.3	110	75	125				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Run ID :Run Order: **ICP2-HE_181213B: 153** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-061AMSD** Method: **SW6010B**

Analysis Date: **12/13/18 19:01** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4090	13	329.9	3461		75	125	5435	28	20	AR
Barium	118	1.0	65.97	58.13	91	75	125	191.3	48	20	R
Boron	70.3	1.2	65.97	2.607	103	75	125	65.24	7.5	20	
Cobalt	71.7	1.0	65.97	0	109	75	125	64.84	10	20	
Copper	129	3.6	65.97	44.87	127	75	125	104.5	21	20	SR
Iron	7440	72	329.9	6643		75	125	7590	2.0	20	A
Manganese	617	1.1	329.9	303.4	95	75	125	637.3	3.2	20	
Zinc	209	4.0	65.97	148.3	92	75	125	214.2	2.6	20	

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

- S= Spike recovery outside of QC advisory limits. The recovery in the Laboratory Control Sample was within QC advisory limits. This suggests that the Matrix Spike recover is due to matrix interference.

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICPMS205-H_181213B: 125** SampType: **Method Blank** Lab ID: **MB-44101** Method: **SW6020**

Analysis Date: **12/13/18 14:57** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.2									
Arsenic	ND	0.04									
Beryllium	ND	0.06									
Cadmium	ND	0.02									
Calcium	ND	90									
Chromium	ND	0.1									
Cobalt	ND	0.2									
Lead	ND	0.08									
Molybdenum	ND	0.03									
Nickel	ND	0.08									
Selenium	ND	0.07									
Silver	0.09	0.04									
Uranium	ND	0.02									
Vanadium	ND	0.08									

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 126** SampType: **Laboratory Control Sample** Lab ID: **LCS-44101** Method: **SW6020**

Analysis Date: **12/13/18 14:59** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	63.8	1.0	240	0	**27**	0	92.9				
Arsenic	163	1.0	196	0	**83**	71.4	105.1				
Beryllium	68.9	1.0	83.6	0	**82**	76.2	108				
Cadmium	97.0	1.0	99	0	**98**	73.9	106.1				
Calcium	5890	450	6360	0	**93**	78.9	113.5				
Chromium	108	1.0	117	0	**92**	73.5	108.5				
Cobalt	107	1.0	108	0	**99**	74.2	105.6				
Lead	102	1.0	105	0	**97**	74.4	108.6				
Molybdenum	118	1.0	127	0	**93**	66.5	103.1				
Nickel	80.5	1.0	86.2	0	**93**	72.3	105				
Selenium	189	1.0	205	0	**92**	71.2	110.2				
Silver	42.2	1.0	42.1	0.09404	**100**	70.8	111.9				
Uranium	96.0	1.0	99.9	0	**96**	80.1	120.1				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICPMS205-H_181213B: 126** SampType: **Laboratory Control Sample** Lab ID: **LCS-44101** Method: **SW6020**

Analysis Date: **12/13/18 14:59** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	106	1.0	114	0	93	67	107				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 135** SampType: **Laboratory Fortified Blank** Lab ID: **LFB-44101** Method: **SW6020**

Analysis Date: **12/13/18 15:16** Units: **mg/kg** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	54.3	1.0	50	0	109	80	120				
Arsenic	52.1	1.0	50	0	104	80	120				
Beryllium	23.5	1.0	25	0	94	80	120				
Cadmium	26.5	1.0	25	0	106	80	120				
Calcium	2480	440	2500	0	99	80	120				
Chromium	52.6	1.0	50	0	105	80	120				
Cobalt	52.9	1.0	50	0	106	80	120				
Lead	53.6	1.0	50	0	107	80	120				
Molybdenum	52.7	1.0	50	0	105	80	120				
Nickel	53.9	1.0	50	0	108	80	120				
Selenium	51.2	1.0	50	0	102	80	120				
Silver	27.4	1.0	25	0.09404	109	80	120				
Uranium	54.5	1.0	50	0	109	80	120				
Vanadium	51.8	1.0	50	0	104	80	120				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 152** SampType: **Serial Dilution** Lab ID: **H18110574-061ADIL** Method: **SW6020**

Analysis Date: **12/13/18 15:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.6		0		0	0	0		10	
Arsenic	10.5	1.3		0		0	0	10.81		10	N
Beryllium	ND	1.9		0		0	0	0		10	
Cadmium	ND	1.0		0		0	0	0.4484		10	
Calcium	ND	2800		0		0	0	1476		10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICPMS205-H_181213B: 152** SampType: **Serial Dilution** Lab ID: **H18110574-061ADIL** Method: **SW6020**

Analysis Date: **12/13/18 15:49** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	7.47	4.0		0		0	0	7.477		10	N
Cobalt	ND	6.2		0		0	0	2.267		10	
Lead	16.0	2.4		0		0	0	16.57		10	N
Molybdenum	ND	1.1		0		0	0	0.3616		10	
Nickel	4.18	2.5		0		0	0	4.287		10	N
Selenium	ND	2.3		0		0	0	0		10	
Silver	ND	1.1		0		0	0	0		10	
Uranium	0.927	1.0		0		0	0	0.9356		10	N
Vanadium	13.4	2.4		0		0	0	13.52		10	N

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 153** SampType: **Post Digestion/Distillation Spike** Lab ID: **H18110574-061APDS1** Method: **SW6020**

Analysis Date: **12/13/18 15:51** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	34.4	1.1	32.74	0	105	75	125				
Arsenic	42.9	1.0	32.74	10.81	98	75	125				
Beryllium	29.1	1.0	32.74	0	89	75	125				
Cadmium	33.8	1.0	32.74	0.4484	102	75	125				
Calcium	2090	570	654.7	1476	94	75	125				
Chromium	39.8	1.0	32.74	7.477	99	75	125				
Cobalt	35.0	1.2	32.74	2.267	100	75	125				
Lead	48.3	1.0	32.74	16.57	97	75	125				
Molybdenum	33.4	1.0	32.74	0.3616	101	75	125				
Nickel	37.2	1.0	32.74	4.287	100	75	125				
Selenium	32.8	1.0	32.74	0	100	75	125				
Silver	14.1	1.0	13.09	0	107	75	125				
Uranium	32.4	1.0	32.74	0.9356	96	75	125				
Vanadium	45.0	1.0	32.74	13.52	96	75	125				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICPMS205-H_181213B: 154** SampType: **Sample Matrix Spike** Lab ID: **H18110574-061AMS** Method: **SW6020**

Analysis Date: **12/13/18 15:53** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	50.8	1.0	60.07	0	**85**	75	125				
Arsenic	69.3	1.0	60.07	10.81	**97**	75	125				
Beryllium	28.1	1.0	30.03	0	**94**	75	125				
Cadmium	31.5	1.0	30.03	0.4484	**103**	75	125				
Calcium	4810	520	3003	1476	**111**	75	125				E
Chromium	70.5	1.0	60.07	7.477	**105**	75	125				
Cobalt	64.4	1.1	60.07	2.267	**103**	75	125				
Lead	77.1	1.0	60.07	16.57	**101**	75	125				
Molybdenum	61.7	1.0	60.07	0.3616	**102**	75	125				
Nickel	67.4	1.0	60.07	4.287	**105**	75	125				
Selenium	60.4	1.0	60.07	0	**100**	75	125				
Silver	32.6	1.0	30.03	0	**109**	75	125				
Uranium	60.8	1.0	60.07	0.9356	**100**	75	125				
Vanadium	77.8	1.0	60.07	13.52	**107**	75	125				

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 155** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-061AMSD** Method: **SW6020**

Analysis Date: **12/13/18 15:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	61.6	1.1	65.97	0	**93**	75	125	50.82	**19**	20	
Arsenic	79.9	1.0	65.97	10.81	**105**	75	125	69.32	**14**	20	
Beryllium	30.8	1.0	32.99	0	**93**	75	125	28.13	**8.9**	20	
Cadmium	35.3	1.0	32.99	0.4484	**106**	75	125	31.5	**11**	20	
Calcium	5180	570	3299	1476	**112**	75	125	4812	**7.4**	20	E
Chromium	75.8	1.0	65.97	7.477	**104**	75	125	70.46	**7.3**	20	
Cobalt	71.6	1.2	65.97	2.267	**105**	75	125	64.39	**11**	20	
Lead	86.8	1.0	65.97	16.57	**106**	75	125	77.07	**12**	20	
Molybdenum	69.4	1.0	65.97	0.3616	**105**	75	125	61.75	**12**	20	
Nickel	75.1	1.0	65.97	4.287	**107**	75	125	67.4	**11**	20	
Selenium	67.2	1.0	65.97	0	**102**	75	125	60.37	**11**	20	
Silver	36.5	1.0	32.99	0	**111**	75	125	32.63	**11**	20	
Uranium	73.7	1.0	65.97	0.9356	**110**	75	125	60.79	**19**	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: 44101

Run ID :Run Order: **ICPMS205-H_181213B: 155** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-061AMSD** Method: **SW6020**

Analysis Date: **12/13/18 15:55** Units: **mg/kg-dry** **Prep Info:** Prep Date: **12/11/2018** Prep Method: **SW3050 B**

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	81.3	1.0	65.97	13.52	**103**	75	125	77.79	**4.4**	20	

Associated samples: **H18110574-019A, H18110574-022A, H18110574-025A, H18110574-028A, H18110574-031A, H18110574-034A, H18110574-037A, H18110574-040A, H18110574-043A, H18110574-046A, H18110574-049A, H18110574-052A, H18110574-055A, H18110574-058A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140268

Run ID :Run Order: **PHSC_101-H_181130A: 29** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **11/30/18 10:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A**

Run ID :Run Order: **PHSC_101-H_181130A: 30** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **11/30/18 10:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	**98**	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A**

Run ID :Run Order: **PHSC_101-H_181130A: 33** SampType: **Sample Duplicate** Lab ID: **H18110557-001BDUP** Method: **A2320 B**

Analysis Date: **11/30/18 10:59** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	150	4.0		0				144.6	**1.7**	10	
Bicarbonate as HCO3	180	4.0		0				175.8	**1.8**	10	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A**

Run ID :Run Order: **PHSC_101-H_181130A: 55** SampType: **Sample Duplicate** Lab ID: **H18110573-002ADUP** Method: **A2320 B**

Analysis Date: **11/30/18 12:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	89	4.0		0				88.6	**0.5**	10	
Bicarbonate as HCO3	110	4.0		0				107.5	**0.5**	10	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140311

Run ID :Run Order: **PHSC_101-H_181203A: 6** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**

Analysis Date: **12/03/18 09:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **PHSC_101-H_181203A: 7** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**

Analysis Date: **12/03/18 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	**99**	90	110				

Associated samples: **H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **PHSC_101-H_181203A: 10** SampType: **Sample Duplicate** Lab ID: **H18110574-008ADUP** Method: **A2320 B**

Analysis Date: **12/03/18 09:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0		0				114.3	**0.7**	10	
Bicarbonate as HCO3	140	4.0		0				138.8	**0.7**	10	

Associated samples: **H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140315

Run ID :Run Order: **IC METROHM_181130A: 2** SampType: **Method Blank** Lab ID: **ICB** Method: **E300.0**

Analysis Date: **11/30/18 11:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.009									
Sulfate	ND	0.01									

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 3** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E300.0**

Analysis Date: **11/30/18 12:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	398	1.0	400	0	99	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 4** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E300.0**

Analysis Date: **11/30/18 12:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.2	1.0	25	0	105	90	110				
Sulfate	107	1.0	100	0	107	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **11/30/18 16:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.6	1.0	50	0	101	90	110				
Sulfate	201	1.0	200	0	100	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140315

Run ID :Run Order: **IC METROHM_181130A: 31** SampType: **Sample Matrix Spike** Lab ID: **H18110574-001AMS** Method: **E300.0**

Analysis Date: **11/30/18 19:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	54.4	1.0	25	28.81	102	90	110				
Sulfate	182	1.0	100	81.92	100	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 32** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-001AMSD** Method: **E300.0**

Analysis Date: **11/30/18 19:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	54.3	1.0	25	28.81	102	90	110	54.4	0.1	20	
Sulfate	183	1.0	100	81.92	101	90	110	182.1	0.2	20	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 33** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **11/30/18 20:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.4	1.0	50	0	101	90	110				
Sulfate	200	1.0	200	0	100	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 45** SampType: **Sample Matrix Spike** Lab ID: **H18110574-011AMS** Method: **E300.0**

Analysis Date: **11/30/18 23:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	77.4	1.0	25	52.03	101	90	110				
Sulfate	178	1.0	100	77.53	101	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140315

Run ID :Run Order: **IC METROHM_181130A: 46** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-011AMSD** Method: **E300.0**

Analysis Date: **11/30/18 23:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	77.4	1.0	25	52.03	102	90	110	77.37	0.1	20	
Sulfate	179	1.0	100	77.53	101	90	110	178	0.3	20	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 47** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**

Analysis Date: **11/30/18 23:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.8	1.0	50	0	108	90	110				
Sulfate	213	1.0	200	0	106	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 54** SampType: **Sample Matrix Spike** Lab ID: **H18110574-016AMS** Method: **E300.0**

Analysis Date: **12/01/18 01:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.2	1.0	25	36.86	101	90	110				
Sulfate	187	1.0	100	87.03	100	90	110				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **IC METROHM_181130A: 55** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-016AMSD** Method: **E300.0**

Analysis Date: **12/01/18 01:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.2	1.0	25	36.86	101	90	110	62.15	0.1	20	
Sulfate	187	1.0	100	87.03	100	90	110	186.6	0.4	20	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 6** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/03/18 11:52** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.801	0.10	0.8	0	100	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Potassium	39.5	1.0	40	0	99	95	105				
Sodium	39.4	1.0	40	0	98	95	105				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 7** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/03/18 11:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	95	105				
Calcium	24.8	1.0	25	0	99	95	105				
Magnesium	24.4	1.0	25	0	97	95	105				
Potassium	25.5	1.0	25	0	102	95	105				
Sodium	25.6	1.0	25	0	103	95	105				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 10** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/03/18 12:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00727	0.10		0		0	0				
Calcium	468	1.0	500	0	94	80	120				
Magnesium	520	1.0	500	0	104	80	120				
Potassium	-0.00455	1.0		0		0	0				
Sodium	0.00814	1.0		0		0	0				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 11** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/03/18 12:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.10	1	0	100	80	120				
Calcium	463	1.0	500	0	93	80	120				
Magnesium	516	1.0	500	0	103	80	120				
Potassium	20.0	1.0	20	0	100	80	120				
Sodium	20.1	1.0	20	0	100	80	120				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 14** SampType: **Method Blank** Lab ID: **MB** Method: **E200.7**

Analysis Date: **12/03/18 12:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.006									
Calcium	ND	0.07									
Magnesium	ND	0.01									
Potassium	ND	0.06									
Sodium	ND	0.02									

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 15** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.7**

Analysis Date: **12/03/18 12:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.959	0.10	1	0	96	85	115				
Calcium	48.5	1.0	50	0	97	85	115				
Magnesium	49.2	1.0	50	0	98	85	115				
Potassium	51.5	1.0	50	0	103	85	115				
Sodium	51.8	1.0	50	0	104	85	115				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 31** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 13:28** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	23.2	1.0	25	0	93	90	110				
Magnesium	23.0	1.0	25	0	92	90	110				
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.9	1.0	25	0	104	90	110				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 39** SampType: **Sample Matrix Spike** Lab ID: **H18110574-003BMS2** Method: **E200.7**

Analysis Date: **12/03/18 13:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.990	0.050	1	0.06282	93	70	130				
Calcium	89.0	1.0	50	42.17	94	70	130				
Magnesium	60.0	1.0	50	11.49	97	70	130				
Potassium	56.9	1.0	50	5.534	103	70	130				
Sodium	81.0	1.0	50	29.43	103	70	130				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 40** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-003BMSD2** Method: **E200.7**

Analysis Date: **12/03/18 14:02** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.06282	96	70	130	0.9903	3.3	20	
Calcium	91.3	1.0	50	42.17	98	70	130	89.03	2.5	20	
Magnesium	62.0	1.0	50	11.49	101	70	130	60.01	3.2	20	
Potassium	56.8	1.0	50	5.534	102	70	130	56.85	0.1	20	
Sodium	80.4	1.0	50	29.43	102	70	130	80.97	0.7	20	

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 43** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 14:13** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Magnesium	24.5	1.0	25	0	98	90	110				
Potassium	24.3	1.0	25	0	97	90	110				
Sodium	24.3	1.0	25	0	97	90	110				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 54** SampType: **Sample Matrix Spike** Lab ID: **H18110574-013BMS2** Method: **E200.7**

Analysis Date: **12/03/18 14:55** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.04442	97	70	130				
Calcium	102	1.0	50	53.52	96	70	130				
Magnesium	61.9	1.0	50	11.42	101	70	130				
Potassium	56.5	1.0	50	4.793	103	70	130				
Sodium	79.0	1.0	50	27.26	104	70	130				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICP2-HE_181203B: 55** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/03/18 14:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	102	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Magnesium	24.6	1.0	25	0	98	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.8	1.0	25	0	99	90	110				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140342

Run ID :Run Order: **ICP2-HE_181203B: 57** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-013BMSD2** Method: **E200.7**

Analysis Date: **12/03/18 15:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1	0.04442	**98**	70	130	1.018	**1.1**	20	
Calcium	104	1.0	50	53.52	**100**	70	130	101.7	**1.9**	20	
Magnesium	63.5	1.0	50	11.42	**104**	70	130	61.86	**2.6**	20	
Potassium	59.0	1.0	50	4.793	**108**	70	130	56.46	**4.4**	20	
Sodium	82.1	1.0	50	27.26	**110**	70	130	79.02	**3.8**	20	

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 26** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.301	0.10	0.3	0	100	90	110				
Antimony	0.0595	0.050	0.06	0	99	90	110				
Arsenic	0.0611	0.0050	0.06	0	102	90	110				
Barium	0.0606	0.10	0.06	0	101	90	110				
Beryllium	0.0316	0.0010	0.03	0	105	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0609	0.010	0.06	0	102	90	110				
Cobalt	0.0621	0.010	0.06	0	104	90	110				
Copper	0.0621	0.010	0.06	0	104	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Lead	0.0621	0.010	0.06	0	104	90	110				
Manganese	0.318	0.010	0.3	0	106	90	110				
Molybdenum	0.0590	0.0050	0.06	0	98	90	110				
Nickel	0.0625	0.010	0.06	0	104	90	110				
Selenium	0.0624	0.0050	0.06	0	104	90	110				
Silver	0.0308	0.0050	0.03	0	103	90	110				
Uranium	0.0591	0.00030	0.06	0	98	90	110				
Vanadium	0.0621	0.10	0.06	0	104	90	110				
Zinc	0.0621	0.010	0.06	0	104	90	110				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 27** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.2	0.10	40	0	105	70	130				
Antimony	0.000682	0.050		0							
Arsenic	0.000116	0.0050		0							
Barium	0.000128	0.10		0							
Beryllium	2.56E-05	0.0010		0							
Cadmium	0.000173	0.0010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 27** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.00127	0.010		0							
Cobalt	2.27E-05	0.010		0							
Copper	0.000151	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	9.43E-05	0.010		0							
Manganese	0.000182	0.010		0							
Molybdenum	0.867	0.0050	0.8	0	108	70	130				
Nickel	0.000102	0.010		0							
Selenium	0.000116	0.0050		0							
Silver	7.86E-05	0.0050		0							
Uranium	2.66E-05	0.00030		0							
Vanadium	3.09E-05	0.10		0							
Zinc	0.000411	0.010		0							

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 28** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.9	0.10	40	0	107	70	130				
Antimony	0.000202	0.050		0		0	0				
Arsenic	0.0110	0.0050	0.01	0	110	70	130				
Barium	4.60E-05	0.10		0		0	0				
Beryllium	5.55E-05	0.0010		0		0	0				
Cadmium	0.0109	0.0010	0.01	0	109	70	130				
Chromium	0.0224	0.010	0.02	0	112	70	130				
Cobalt	0.0212	0.010	0.02	0	106	70	130				
Copper	0.0214	0.010	0.02	0	107	70	130				
Iron	104	0.020	100	0	104	70	130				
Lead	7.60E-05	0.010		0		0	0				
Manganese	0.0216	0.010	0.02	0	108	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 28** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 11:16** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.881	0.0050	0.8	0	110	70	130				
Nickel	0.0213	0.010	0.02	0	107	70	130				
Selenium	0.0105	0.0050	0.01	0	105	70	130				
Silver	0.0214	0.0050	0.02	0	107	70	130				
Uranium	9.03E-06	0.00030		0		0	0				
Vanadium	0.0215	0.10	0.02	0	107	70	130				
Zinc	0.0110	0.010	0.01	0	110	70	130				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 144** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 15:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.312	0.10	0.3	0	104	90	110				
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0630	0.0050	0.06	0	105	90	110				
Barium	0.0611	0.10	0.06	0	102	90	110				
Beryllium	0.0303	0.0010	0.03	0	101	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0631	0.010	0.06	0	105	90	110				
Cobalt	0.0632	0.010	0.06	0	105	90	110				
Copper	0.0634	0.010	0.06	0	106	90	110				
Iron	0.310	0.020	0.3	0	103	90	110				
Lead	0.0631	0.010	0.06	0	105	90	110				
Manganese	0.323	0.010	0.3	0	108	90	110				
Molybdenum	0.0585	0.0050	0.06	0	98	90	110				
Nickel	0.0641	0.010	0.06	0	107	90	110				
Selenium	0.0627	0.0050	0.06	0	104	90	110				
Silver	0.0305	0.0050	0.03	0	102	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				
Vanadium	0.0629	0.10	0.06	0	105	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 144** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 15:21** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0646	0.010	0.06	0	108	90	110				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 145** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 15:23** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	42.4	0.10	40	0	106	70	130				
Antimony	0.000675	0.050		0							
Arsenic	9.86E-05	0.0050		0							
Barium	0.000131	0.10		0							
Beryllium	-1.00E-06	0.0010		0							
Cadmium	0.000164	0.0010		0							
Chromium	0.00134	0.010		0							
Cobalt	2.02E-05	0.010		0							
Copper	0.000169	0.010		0							
Iron	105	0.020	100	0	105	70	130				
Lead	7.29E-05	0.010		0							
Manganese	0.000204	0.010		0							
Molybdenum	0.856	0.0050	0.8	0	107	70	130				
Nickel	0.000122	0.010		0							
Selenium	9.78E-05	0.0050		0							
Silver	8.02E-05	0.0050		0							
Uranium	3.02E-05	0.00030		0							
Vanadium	4.27E-05	0.10		0							
Zinc	0.000438	0.010		0							

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 146** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 15:25** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.2	0.10	40	0	110	70	130				
Antimony	0.000198	0.050		0		0	0				
Arsenic	0.0111	0.0050	0.01	0	111	70	130				
Barium	5.22E-05	0.10		0		0	0				
Beryllium	1.59E-05	0.0010		0		0	0				
Cadmium	0.0107	0.0010	0.01	0	107	70	130				
Chromium	0.0230	0.010	0.02	0	115	70	130				
Cobalt	0.0214	0.010	0.02	0	107	70	130				
Copper	0.0214	0.010	0.02	0	107	70	130				
Iron	105	0.020	100	0	105	70	130				
Lead	5.76E-05	0.010		0		0	0				
Manganese	0.0219	0.010	0.02	0	109	70	130				
Molybdenum	0.866	0.0050	0.8	0	108	70	130				
Nickel	0.0217	0.010	0.02	0	109	70	130				
Selenium	0.0106	0.0050	0.01	0	106	70	130				
Silver	0.0211	0.0050	0.02	0	106	70	130				
Uranium	5.29E-06	0.00030		0		0	0				
Vanadium	0.0216	0.10	0.02	0	108	70	130				
Zinc	0.0110	0.010	0.01	0	110	70	130				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 160** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.297	0.10	0.3	0	99	90	110				
Antimony	0.0587	0.050	0.06	0	98	90	110				
Arsenic	0.0611	0.0050	0.06	0	102	90	110				
Barium	0.0613	0.10	0.06	0	102	90	110				
Beryllium	0.0307	0.0010	0.03	0	102	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 160** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/04/18 16:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0615	0.010	0.06	0	103	90	110				
Cobalt	0.0621	0.010	0.06	0	103	90	110				
Copper	0.0630	0.010	0.06	0	105	90	110				
Iron	0.307	0.020	0.3	0	102	90	110				
Lead	0.0618	0.010	0.06	0	103	90	110				
Manganese	0.316	0.010	0.3	0	105	90	110				
Molybdenum	0.0584	0.0050	0.06	0	97	90	110				
Nickel	0.0630	0.010	0.06	0	105	90	110				
Selenium	0.0623	0.0050	0.06	0	104	90	110				
Silver	0.0305	0.0050	0.03	0	102	90	110				
Uranium	0.0585	0.00030	0.06	0	98	90	110				
Vanadium	0.0617	0.10	0.06	0	103	90	110				
Zinc	0.0630	0.010	0.06	0	105	90	110				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 161** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	41.9	0.10	40	0	105	70	130				
Antimony	0.000696	0.050		0							
Arsenic	0.000113	0.0050		0							
Barium	0.000139	0.10		0							
Beryllium	4.24E-05	0.0010		0							
Cadmium	0.000170	0.0010		0							
Chromium	0.00128	0.010		0							
Cobalt	2.23E-05	0.010		0							
Copper	0.000163	0.010		0							
Iron	103	0.020	100	0	103	70	130				
Lead	7.34E-05	0.010		0							
Manganese	0.000244	0.010		0							

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 161** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/04/18 16:11** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.873	0.0050	0.8	0	109	70	130				
Nickel	9.48E-05	0.010		0							
Selenium	7.72E-05	0.0050		0							
Silver	8.61E-05	0.0050		0							
Uranium	3.10E-05	0.00030		0							
Vanadium	3.99E-05	0.10		0							
Zinc	0.000427	0.010		0							

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 162** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 16:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	44.0	0.10	40	0	110	70	130				
Antimony	0.000228	0.050		0		0	0				
Arsenic	0.0113	0.0050	0.01	0	113	70	130				
Barium	5.61E-05	0.10		0		0	0				
Beryllium	4.33E-05	0.0010		0		0	0				
Cadmium	0.0111	0.0010	0.01	0	111	70	130				
Chromium	0.0230	0.010	0.02	0	115	70	130				
Cobalt	0.0218	0.010	0.02	0	109	70	130				
Copper	0.0219	0.010	0.02	0	110	70	130				
Iron	107	0.020	100	0	107	70	130				
Lead	5.74E-05	0.010		0		0	0				
Manganese	0.0223	0.010	0.02	0	112	70	130				
Molybdenum	0.920	0.0050	0.8	0	115	70	130				
Nickel	0.0222	0.010	0.02	0	111	70	130				
Selenium	0.0107	0.0050	0.01	0	107	70	130				
Silver	0.0219	0.0050	0.02	0	109	70	130				
Uranium	8.93E-06	0.00030		0		0	0				
Vanadium	0.0222	0.10	0.02	0	111	70	130				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 162** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/04/18 16:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0110	0.010	0.01	0	110	70	130				

Associated samples: **H18110574-001B, H18110574-001C, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-003C, H18110574-004B, H18110574-004C, H18110574-005B, H18110574-005C, H18110574-006B, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008B, H18110574-008C, H18110574-009B, H18110574-009C, H18110574-010B, H18110574-010C, H18110574-011B, H18110574-011C, H18110574-012B, H18110574-012C, H18110574-013B, H18110574-013C, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-015C, H18110574-016B, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181204A: 167** SampType: **Method Blank** Lab ID: **LRB** Method: **E200.8**

Analysis Date: **12/04/18 16:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	9E-05									
Arsenic	ND	4E-05									
Barium	ND	2E-05									
Beryllium	ND	0.0001									
Cadmium	ND	3E-05									
Chromium	ND	0.0002									
Cobalt	ND	9E-05									
Copper	ND	0.0001									
Iron	ND	0.002									
Lead	ND	3E-05									
Manganese	ND	0.0003									
Molybdenum	ND	2E-05									
Nickel	ND	0.0002									
Selenium	ND	2E-05									
Silver	ND	2E-05									
Uranium	ND	1E-05									
Vanadium	ND	7E-05									
Zinc	ND	0.0003									

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 168** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E200.8**

Analysis Date: **12/04/18 16:24** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0511	0.10	0.05	0	102	85	115				
Antimony	0.0516	0.050	0.05	0	103	85	115				
Arsenic	0.0502	0.0050	0.05	0	100	85	115				
Barium	0.0504	0.10	0.05	0	101	85	115				
Beryllium	0.0517	0.0010	0.05	0	103	85	115				
Cadmium	0.0509	0.0010	0.05	0	102	85	115				
Chromium	0.0503	0.010	0.05	0	101	85	115				
Cobalt	0.0509	0.010	0.05	0	102	85	115				
Copper	0.0518	0.010	0.05	0	104	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0500	0.010	0.05	0	100	85	115				
Manganese	0.0514	0.010	0.05	0	103	85	115				
Molybdenum	0.0484	0.0050	0.05	0	97	85	115				
Nickel	0.0514	0.010	0.05	0	103	85	115				
Selenium	0.0516	0.0050	0.05	0	103	85	115				
Silver	0.0204	0.0050	0.02	0	102	85	115				
Uranium	0.0483	0.00030	0.05	0	97	85	115				
Vanadium	0.0503	0.10	0.05	0	101	85	115				
Zinc	0.0521	0.010	0.05	0	104	85	115				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICPMS205-H_181204A: 182** SampType: **Sample Matrix Spike** Lab ID: **H18110515-002BMS** Method: **E200.8**

Analysis Date: **12/04/18 16:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0508	0.030	0.05	0	102	70	130				
Antimony	0.0515	0.0010	0.05	0	103	70	130				
Arsenic	0.0497	0.0010	0.05	0	99	70	130				
Barium	0.0517	0.050	0.05	0.001272	101	70	130				
Beryllium	0.0535	0.0010	0.05	0	107	70	130				
Cadmium	0.0506	0.0010	0.05	0	101	70	130				
Chromium	0.0492	0.0050	0.05	0	98	70	130				
Cobalt	0.0497	0.0050	0.05	0	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 182** SampType: **Sample Matrix Spike** Lab ID: **H18110515-002BMS** Method: **E200.8**

Analysis Date: **12/04/18 16:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0511	0.0050	0.05	0	102	70	130				
Iron	0.157	0.020	0.15	0.01265	96	70	130				
Lead	0.0504	0.0010	0.05	0	101	70	130				
Manganese	0.0501	0.0010	0.05	0	100	70	130				
Molybdenum	0.0484	0.0010	0.05	0	97	70	130				
Nickel	0.0498	0.0050	0.05	0	100	70	130				
Selenium	0.0504	0.0010	0.05	0	101	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Uranium	0.0490	0.00030	0.05	0	98	70	130				
Vanadium	0.0490	0.010	0.05	0	98	70	130				
Zinc	0.0579	0.010	0.05	0.00776	100	70	130				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICPMS205-H_181204A: 183** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110515-002BMSD** Method: **E200.8**

Analysis Date: **12/04/18 16:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.030	0.05	0	103	70	130	0.05081	1.5	20	
Antimony	0.0530	0.0010	0.05	0	106	70	130	0.05149	2.8	20	
Arsenic	0.0515	0.0010	0.05	0	103	70	130	0.04972	3.4	20	
Barium	0.0529	0.050	0.05	0.001272	103	70	130	0.05167	2.3	20	
Beryllium	0.0510	0.0010	0.05	0	102	70	130	0.05353	4.7	20	
Cadmium	0.0522	0.0010	0.05	0	104	70	130	0.0506	3.2	20	
Chromium	0.0516	0.0050	0.05	0	103	70	130	0.04919	4.8	20	
Cobalt	0.0521	0.0050	0.05	0	104	70	130	0.04973	4.7	20	
Copper	0.0529	0.0050	0.05	0	106	70	130	0.05108	3.5	20	
Iron	0.165	0.020	0.15	0.01265	101	70	130	0.1567	4.9	20	
Lead	0.0502	0.0010	0.05	0	100	70	130	0.05043	0.5	20	
Manganese	0.0522	0.0010	0.05	0	104	70	130	0.05011	4.2	20	
Molybdenum	0.0496	0.0010	0.05	0	99	70	130	0.0484	2.5	20	
Nickel	0.0519	0.0050	0.05	0	104	70	130	0.04984	4.1	20	
Selenium	0.0507	0.0010	0.05	0	101	70	130	0.05038	0.6	20	
Silver	0.0208	0.0010	0.02	0	104	70	130	0.02025	2.9	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 183** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110515-002BMSD** Method: **E200.8**

Analysis Date: **12/04/18 16:53** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0487	0.00030	0.05	0	**97**	70	130	0.04901	**0.7**	20	
Vanadium	0.0511	0.010	0.05	0	**102**	70	130	0.04903	**4.2**	20	
Zinc	0.0609	0.010	0.05	0.00776	**106**	70	130	0.05793	**5.0**	20	

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICPMS205-H_181204A: 196** SampType: **Sample Matrix Spike** Lab ID: **H18110574-005BMS** Method: **E200.8**

Analysis Date: **12/04/18 17:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0634	0.030	0.05	0.01369	**99**	70	130				
Antimony	0.0530	0.0010	0.05	0.0002649	**106**	70	130				
Arsenic	0.0537	0.0010	0.05	0.003178	**101**	70	130				
Barium	0.0931	0.050	0.05	0.04271	**101**	70	130				
Beryllium	0.0515	0.0010	0.05	0	**103**	70	130				
Cadmium	0.0510	0.0010	0.05	0.0003453	**101**	70	130				
Chromium	0.0488	0.0050	0.05	0	**98**	70	130				
Cobalt	0.0496	0.0050	0.05	0.0002122	**99**	70	130				
Copper	0.0771	0.0050	0.05	0.0274	**99**	70	130				
Iron	0.206	0.020	0.15	0.0628	**95**	70	130				
Lead	0.0505	0.0010	0.05	0.0002025	**101**	70	130				
Manganese	0.221	0.0010	0.05	0.1689	**104**	70	130				
Molybdenum	0.0542	0.0010	0.05	0.005111	**98**	70	130				
Nickel	0.0502	0.0050	0.05	0.0008812	**99**	70	130				
Selenium	0.0513	0.0010	0.05	0.0001419	**102**	70	130				
Silver	0.0200	0.0010	0.02	0	**100**	70	130				
Uranium	0.0554	0.00030	0.05	0.005784	**99**	70	130				
Vanadium	0.0504	0.010	0.05	0.001401	**98**	70	130				
Zinc	0.159	0.010	0.05	0.1102	**98**	70	130				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 197** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-005BMSD** Method: **E200.8**

Analysis Date: **12/04/18 17:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0617	0.030	0.05	0.01369	96	70	130	0.06335	2.6	20	
Antimony	0.0518	0.0010	0.05	0.0002649	103	70	130	0.05302	2.4	20	
Arsenic	0.0539	0.0010	0.05	0.003178	101	70	130	0.05367	0.4	20	
Barium	0.0916	0.050	0.05	0.04271	98	70	130	0.09312	1.6	20	
Beryllium	0.0528	0.0010	0.05	0	106	70	130	0.05155	2.4	20	
Cadmium	0.0502	0.0010	0.05	0.0003453	100	70	130	0.05095	1.5	20	
Chromium	0.0491	0.0050	0.05	0	98	70	130	0.04879	0.6	20	
Cobalt	0.0494	0.0050	0.05	0.0002122	98	70	130	0.04957	0.3	20	
Copper	0.0773	0.0050	0.05	0.0274	100	70	130	0.0771	0.2	20	
Iron	0.208	0.020	0.15	0.0628	97	70	130	0.2058	1.0	20	
Lead	0.0502	0.0010	0.05	0.0002025	100	70	130	0.05053	0.7	20	
Manganese	0.218	0.0010	0.05	0.1689	97	70	130	0.2209	1.5	20	
Molybdenum	0.0531	0.0010	0.05	0.005111	96	70	130	0.05423	2.1	20	
Nickel	0.0502	0.0050	0.05	0.0008812	99	70	130	0.05016	0.2	20	
Selenium	0.0525	0.0010	0.05	0.0001419	105	70	130	0.05134	2.3	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.02003	1.1	20	
Uranium	0.0554	0.00030	0.05	0.005784	99	70	130	0.05543	0.1	20	
Vanadium	0.0507	0.010	0.05	0.001401	99	70	130	0.05039	0.7	20	
Zinc	0.160	0.010	0.05	0.1102	100	70	130	0.1591	0.7	20	

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICPMS205-H_181204A: 207** SampType: **Sample Matrix Spike** Lab ID: **H18110574-015BMS** Method: **E200.8**

Analysis Date: **12/04/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0540	0.030	0.05	0.004704	98	70	130				
Antimony	0.0523	0.0010	0.05	0.0002484	104	70	130				
Arsenic	0.0555	0.0010	0.05	0.005035	101	70	130				
Barium	0.0871	0.050	0.05	0.03939	95	70	130				
Beryllium	0.0520	0.0010	0.05	0	104	70	130				
Cadmium	0.0507	0.0010	0.05	0.0003135	101	70	130				
Chromium	0.0493	0.0050	0.05	0	99	70	130				
Cobalt	0.0501	0.0050	0.05	0.0003413	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limit; N - Analyte concentration was not sufficiently high to calculate RPD; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits; A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 207** SampType: **Sample Matrix Spike** Lab ID: **H18110574-015BMS** Method: **E200.8**

Analysis Date: **12/04/18 17:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0626	0.0050	0.05	0.0126	100	70	130				
Iron	0.173	0.020	0.15	0.03033	95	70	130				
Lead	0.0495	0.0010	0.05	0.0001206	99	70	130				
Manganese	0.118	0.0010	0.05	0.07013	95	70	130				
Molybdenum	0.0527	0.0010	0.05	0.003933	97	70	130				
Nickel	0.0508	0.0050	0.05	0.0008216	100	70	130				
Selenium	0.0519	0.0010	0.05	0.0003422	103	70	130				
Silver	0.0199	0.0010	0.02	0	99	70	130				
Uranium	0.0541	0.00030	0.05	0.004715	99	70	130				
Vanadium	0.0509	0.010	0.05	0.001705	98	70	130				
Zinc	0.150	0.010	0.05	0.1064	87	70	130				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Run ID :Run Order: **ICPMS205-H_181204A: 208** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-015BMSD** Method: **E200.8**

Analysis Date: **12/04/18 17:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0544	0.030	0.05	0.004704	99	70	130	0.05395	0.8	20	
Antimony	0.0516	0.0010	0.05	0.0002484	103	70	130	0.05226	1.2	20	
Arsenic	0.0558	0.0010	0.05	0.005035	102	70	130	0.05547	0.6	20	
Barium	0.0879	0.050	0.05	0.03939	97	70	130	0.08708	0.9	20	
Beryllium	0.0538	0.0010	0.05	0	108	70	130	0.05199	3.4	20	
Cadmium	0.0502	0.0010	0.05	0.0003135	100	70	130	0.0507	0.9	20	
Chromium	0.0491	0.0050	0.05	0	98	70	130	0.04933	0.4	20	
Cobalt	0.0497	0.0050	0.05	0.0003413	99	70	130	0.05009	0.7	20	
Copper	0.0623	0.0050	0.05	0.0126	99	70	130	0.06256	0.4	20	
Iron	0.175	0.020	0.15	0.03033	97	70	130	0.1732	1.2	20	
Lead	0.0504	0.0010	0.05	0.0001206	100	70	130	0.04949	1.8	20	
Manganese	0.119	0.0010	0.05	0.07013	97	70	130	0.1178	0.7	20	
Molybdenum	0.0522	0.0010	0.05	0.003933	97	70	130	0.05267	0.9	20	
Nickel	0.0508	0.0050	0.05	0.0008216	100	70	130	0.05082	0.1	20	
Selenium	0.0533	0.0010	0.05	0.0003422	106	70	130	0.05186	2.8	20	
Silver	0.0200	0.0010	0.02	0	100	70	130	0.01989	0.4	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140358

Run ID :Run Order: **ICPMS205-H_181204A: 208** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-015BMSD** Method: **E200.8**

Analysis Date: **12/04/18 17:42** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0551	0.00030	0.05	0.004715	**101**	70	130	0.05411	**1.8**	20	
Vanadium	0.0514	0.010	0.05	0.001705	**99**	70	130	0.05093	**0.8**	20	
Zinc	0.151	0.010	0.05	0.1064	**89**	70	130	0.15	**0.7**	20	

Associated samples: **H18110574-001B, H18110574-002B, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-007B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140405

Run ID :Run Order: **HGCV202-H_181205A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/05/18 10:27** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0982	0.0050	0.1	0	**98**	90	110				

Associated samples: **H18110574-001B, H18110574-002B, H18110574-002C, H18110574-003B, H18110574-004B, H18110574-005B, H18110574-006B, H18110574-008B, H18110574-009B, H18110574-010B, H18110574-011B, H18110574-012B, H18110574-013B, H18110574-014B, H18110574-014C, H18110574-015B, H18110574-016B**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140408

Run ID :Run Order: **ICPMS205-H_181205A: 45** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/05/18 12:48** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0634	0.050	0.06	0	106	90	110				
Cadmium	0.0326	0.0010	0.03	0	109	90	110				
Copper	0.0641	0.010	0.06	0	107	90	110				
Iron	0.314	0.020	0.3	0	105	90	110				
Lead	0.0655	0.010	0.06	0	109	90	110				
Uranium	0.0622	0.00030	0.06	0	104	90	110				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 46** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/05/18 12:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000770	0.050		0							
Cadmium	0.000212	0.0010		0							
Copper	0.000183	0.010		0							
Iron	113	0.020	100	0	113	70	130				
Lead	8.78E-05	0.010		0							
Uranium	3.25E-05	0.00030		0							

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 47** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/05/18 12:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000223	0.050		0		0	0				
Cadmium	0.0114	0.0010	0.01	0	115	70	130				
Copper	0.0224	0.010	0.02	0	112	70	130				
Iron	110	0.020	100	0	110	70	130				
Lead	7.13E-05	0.010		0		0	0				
Uranium	7.25E-06	0.00030		0		0	0				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140408

Run ID :Run Order: **ICPMS205-H_181205A: 189** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.8**

Analysis Date: **12/05/18 17:35** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0601	0.050	0.06	0	100	90	110				
Cadmium	0.0311	0.0010	0.03	0	104	90	110				
Copper	0.0625	0.010	0.06	0	104	90	110				
Iron	0.310	0.020	0.3	0	103	90	110				
Lead	0.0636	0.010	0.06	0	106	90	110				
Uranium	0.0609	0.00030	0.06	0	102	90	110				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 190** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.8**

Analysis Date: **12/05/18 17:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000743	0.050		0							
Cadmium	0.000176	0.0010		0							
Copper	0.000190	0.010		0							
Iron	109	0.020	100	0	109	70	130				
Lead	7.58E-05	0.010		0							
Uranium	3.57E-05	0.00030		0							

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICPMS205-H_181205A: 191** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.8**

Analysis Date: **12/05/18 17:39** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000222	0.050		0		0	0				
Cadmium	0.0114	0.0010	0.01	0	114	70	130				
Copper	0.0223	0.010	0.02	0	112	70	130				
Iron	109	0.020	100	0	109	70	130				
Lead	6.53E-05	0.010		0		0	0				
Uranium	1.23E-05	0.00030		0		0	0				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140419

Run ID :Run Order: **ICP2-HE_181205A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E200.7**

Analysis Date: **12/05/18 10:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.769	0.10	0.8	0	**96**	95	105				
Calcium	40.4	1.0	40	0	**101**	95	105				
Magnesium	40.6	1.0	40	0	**102**	95	105				
Potassium	39.4	1.0	40	0	**99**	95	105				
Sodium	38.9	1.0	40	0	**97**	95	105				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV-1** Method: **E200.7**

Analysis Date: **12/05/18 10:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.40	0.10	2.5	0	**96**	95	105				
Calcium	25.6	1.0	25	0	**102**	95	105				
Magnesium	25.1	1.0	25	0	**101**	95	105				
Potassium	25.3	1.0	25	0	**101**	95	105				
Sodium	25.0	1.0	25	0	**100**	95	105				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **E200.7**

Analysis Date: **12/05/18 10:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.00662	0.10		0		0	0				
Calcium	483	1.0	500	0	**97**	80	120				
Magnesium	539	1.0	500	0	**108**	80	120				
Potassium	-0.0149	1.0		0		0	0				
Sodium	0.0112	1.0		0		0	0				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140419

Run ID :Run Order: **ICP2-HE_181205A: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **E200.7**

Analysis Date: **12/05/18 10:19** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.990	0.10	1	0	**99**	80	120				
Calcium	472	1.0	500	0	**94**	80	120				
Magnesium	530	1.0	500	0	**106**	80	120				
Potassium	20.3	1.0	20	0	**102**	80	120				
Sodium	20.4	1.0	20	0	**102**	80	120				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 19** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/05/18 13:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	**102**	90	110				
Calcium	26.5	1.0	25	0	**106**	90	110				
Magnesium	25.9	1.0	25	0	**104**	90	110				
Potassium	25.1	1.0	25	0	**100**	90	110				
Sodium	24.7	1.0	25	0	**99**	90	110				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Run ID :Run Order: **ICP2-HE_181205A: 37** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/05/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	**98**	90	110				
Calcium	25.0	1.0	25	0	**100**	90	110				
Magnesium	24.7	1.0	25	0	**99**	90	110				
Potassium	24.9	1.0	25	0	**100**	90	110				
Sodium	25.0	1.0	25	0	**100**	90	110				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140419

Run ID :Run Order: **ICP2-HE_181205A: 49** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.7**

Analysis Date: **12/05/18 15:03** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	**102**	90	110				
Calcium	25.4	1.0	25	0	**102**	90	110				
Magnesium	25.0	1.0	25	0	**100**	90	110				
Potassium	26.0	1.0	25	0	**104**	90	110				
Sodium	26.0	1.0	25	0	**104**	90	110				

Associated samples: **H18110574-001C, H18110574-002C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-014C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140449

Run ID :Run Order: **FIA203-HE_181206D: 8** SampType: **Method Blank** Lab ID: **MBLK** Method: **E350.1**
Analysis Date: **12/06/18 14:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	ND	0.02									

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E350.1**
Analysis Date: **12/06/18 14:20** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	10.5	0.40	10.3	0	102	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E350.1**
Analysis Date: **12/06/18 14:22** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.990	0.050	1	0	99	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **12/06/18 14:40** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.506	0.050	0.5	0	101	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 32** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004DMS** Method: **E350.1**
Analysis Date: **12/06/18 14:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.981	0.050	1	0	98	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140449

Run ID :Run Order: **FIA203-HE_181206D: 32** SampType: **Sample Matrix Spike** Lab ID: **H18110573-004DMS** Method: **E350.1**

Analysis Date: **12/06/18 14:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 33** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110573-004DMSD** Method: **E350.1**

Analysis Date: **12/06/18 14:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.980	0.050	1	0	98	80	120	0.9814	0.1	10	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**

Analysis Date: **12/06/18 14:57** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.512	0.050	0.5	0	102	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 46** SampType: **Sample Matrix Spike** Lab ID: **H18110574-010DMS** Method: **E350.1**

Analysis Date: **12/06/18 15:04** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.908	0.050	1	0	91	80	120				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 47** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-010DMSD** Method: **E350.1**

Analysis Date: **12/06/18 15:05** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.921	0.050	1	0	92	80	120	0.9079	1.4	10	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140449

Run ID :Run Order: **FIA203-HE_181206D: 54** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E350.1**
Analysis Date: **12/06/18 15:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.512	0.050	0.5	0	102	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 57** SampType: **Sample Matrix Spike** Lab ID: **H18120017-001AMS** Method: **E350.1**
Analysis Date: **12/06/18 15:17** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.734	0.050	1	0.08513	65	80	120				S

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 58** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18120017-001AMSD** Method: **E350.1**
Analysis Date: **12/06/18 15:18** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	0.761	0.050	1	0.08513	68	80	120	0.7342	3.6	10	S

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 64** SampType: **Sample Matrix Spike** Lab ID: **H18120017-001AMS** Method: **E350.1**
Analysis Date: **12/06/18 15:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.72	0.088	2	0.1159	80	80	120				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181206D: 65** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18120017-001AMSD** Method: **E350.1**
Analysis Date: **12/06/18 15:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia as N	1.89	0.088	2	0.1159	88	80	120	1.725	8.9	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140449

Run ID :Run Order: **FIA203-HE_181206D: 65** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18120017-001AMSD** Method: **E350.1**

Analysis Date: **12/06/18 15:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140454

Run ID :Run Order: **HGCV202-H_181206A: 8** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E245.1**

Analysis Date: **12/06/18 12:06** Units: **ug/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0997	0.0050	0.1	0	**100**	90	110				

Associated samples: **H18110574-001C, H18110574-003C, H18110574-004C, H18110574-005C, H18110574-006C, H18110574-007B, H18110574-007C, H18110574-008C, H18110574-009C, H18110574-010C, H18110574-011C, H18110574-012C, H18110574-013C, H18110574-015C, H18110574-016C**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140480

Run ID :Run Order: **FIA203-HE_181207B: 9** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **E353.2**
Analysis Date: **12/07/18 11:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.961	0.010	1	0	96	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 10** SampType: **Method Blank** Lab ID: **MBLK** Method: **E353.2**
Analysis Date: **12/07/18 11:08** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.009									

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 11** SampType: **Laboratory Fortified Blank** Lab ID: **LFB** Method: **E353.2**
Analysis Date: **12/07/18 11:09** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.951	0.011	1	0	95	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 13** SampType: **Sample Duplicate** Lab ID: **H18120131-001ADUP** Method: **E353.2**
Analysis Date: **12/07/18 11:12** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	11.3	0.10		0				10.93	3.2	10	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 15** SampType: **Sample Matrix Spike** Lab ID: **H18110571-001BMS** Method: **E353.2**
Analysis Date: **12/07/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0.03781	98	90	110				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140480

Run ID :Run Order: **FIA203-HE_181207B: 15** SampType: **Sample Matrix Spike** Lab ID: **H18110571-001BMS** Method: **E353.2**

Analysis Date: **12/07/18 11:14** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 16** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110571-001BMSD** Method: **E353.2**

Analysis Date: **12/07/18 11:15** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.958	0.011	1	0.03781	92	90	110	1.017	6.0	10	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 26** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **12/07/18 11:27** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.466	0.010	0.5	0	93	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 34** SampType: **Sample Matrix Spike** Lab ID: **H18110574-008DMS** Method: **E353.2**

Analysis Date: **12/07/18 11:37** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.83	0.011	1	0.8798	95	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 35** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-008DMSD** Method: **E353.2**

Analysis Date: **12/07/18 11:38** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.81	0.011	1	0.8798	93	90	110	1.832	1.0	10	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140480

Run ID :Run Order: **FIA203-HE_181207B: 40** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E353.2**

Analysis Date: **12/07/18 11:44** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.481	0.010	0.5	0	96	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 44** SampType: **Sample Matrix Spike** Lab ID: **H18110574-014DMS** Method: **E353.2**

Analysis Date: **12/07/18 11:49** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.987	0.011	1	0	99	90	110				

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Run ID :Run Order: **FIA203-HE_181207B: 45** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H18110574-014DMSD** Method: **E353.2**

Analysis Date: **12/07/18 11:50** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.958	0.011	1	0	96	90	110	0.9875	3.0	10	

Associated samples: **H18110574-001D, H18110574-002D, H18110574-003D, H18110574-004D, H18110574-005D, H18110574-006D, H18110574-007D, H18110574-008D, H18110574-009D, H18110574-010D, H18110574-011D, H18110574-012D, H18110574-013D, H18110574-014D, H18110574-015D, H18110574-016D**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140580

Run ID :Run Order: **HGCV201-H_181212A: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW7471B**

Analysis Date: **12/12/18 09:36** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00096	0.50	0.001	0	**96**	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **HGCV201-H_181212A: 8** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **SW7471B**

Analysis Date: **12/12/18 09:38** Units: **mg/kg** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0025	0.50	0.0025	0	**101**	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140605

Run ID :Run Order: **ICP2-HE_181212B: 12** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/12/18 09:26** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	100	90	110				
Barium	0.792	0.10	0.8	0	99	90	110				
Boron	0.786	0.10	0.8	0	98	90	110				
Copper	0.790	0.012	0.8	0	99	90	110				
Iron	3.97	0.030	4	0	99	90	110				
Manganese	3.97	0.010	4	0	99	90	110				
Zinc	0.786	0.010	0.8	0	98	90	110				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 16** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/12/18 09:41** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	531	0.10	500	0	106	80	120				
Barium	-0.000140	0.10		0		0	0				
Boron	0.00687	0.10		0		0	0				
Copper	-0.00507	0.012		0		0	0				
Iron	185	0.030	200	0	93	80	120				
Manganese	-0.0227	0.010		0		0	0				
Zinc	0.00677	0.010		0		0	0				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Run ID :Run Order: **ICP2-HE_181212B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/12/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536	0.10	500	0	107	80	120				
Barium	0.510	0.10	0.5	0	102	80	120				
Boron	1.04	0.10	1	0	104	80	120				
Copper	0.515	0.012	0.5	0	103	80	120				
Iron	186	0.030	200	0	93	80	120				
Manganese	0.465	0.010	0.5	0	93	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140605

Run ID :Run Order: **ICP2-HE_181212B: 17** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/12/18 09:45** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	1.03	0.010	1	0	**103**	80	120				

Associated samples: **H18110574-017A, H18110574-020A, H18110574-023A, H18110574-026A, H18110574-029A, H18110574-032A, H18110574-035A, H18110574-038A, H18110574-041A, H18110574-044A, H18110574-047A, H18110574-050A, H18110574-053A, H18110574-056A, H18110574-059A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

Project: Silver Bow Creek SSTOU Monitoring

BatchID: R140612

Run ID :Run Order: **ICPMS205-H_181213B: 10** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6020**

Analysis Date: **12/13/18 10:56** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0606	0.0010	0.06	0	**101**	90	110				
Arsenic	0.0625	0.0010	0.06	0	**104**	90	110				
Beryllium	0.0311	0.0010	0.03	0	**104**	90	110				
Cadmium	0.0311	0.0010	0.03	0	**104**	90	110				
Calcium	2.99	0.14	3	0	**100**	90	110				
Chromium	0.0626	0.0010	0.06	0	**104**	90	110				
Cobalt	0.0632	0.0010	0.06	0	**105**	90	110				
Lead	0.0625	0.0010	0.06	0	**104**	90	110				
Molybdenum	0.0599	0.0010	0.06	0	**100**	90	110				
Nickel	0.0644	0.0010	0.06	0	**107**	90	110				
Selenium	0.0614	0.0010	0.06	0	**102**	90	110				
Silver	0.0313	0.0010	0.03	0	**104**	90	110				
Uranium	0.0603	0.00030	0.06	0	**101**	90	110				
Vanadium	0.0623	0.0010	0.06	0	**104**	90	110				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **12/13/18 10:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000645	0.0010		0							
Arsenic	9.36E-05	0.0010		0							
Beryllium	-4.72E-05	0.0010		0							
Cadmium	0.000163	0.0010		0							
Calcium	114	0.14	120	0	**95**	70	130				
Chromium	0.00120	0.0010		0							
Cobalt	-1.89E-05	0.0010		0							
Lead	2.23E-05	0.0010		0							
Molybdenum	0.837	0.0010	0.8	0	**105**	70	130				
Nickel	0.000101	0.0010		0		0	0				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140612

Run ID :Run Order: **ICPMS205-H_181213B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6020**

Analysis Date: **12/13/18 10:58** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	5.84E-05	0.0010		0							
Silver	0.000314	0.0010		0							
Uranium	2.85E-05	0.00030		0							
Vanadium	2.97E-05	0.0010		0		0	0				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **ICPMS205-H_181213B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6020**

Analysis Date: **12/13/18 11:00** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 14	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.000202	0.0010		0		0	0				
Arsenic	0.0102	0.0010	0.01	0	102	70	130				
Beryllium	4.52E-07	0.0010		0		0	0				
Cadmium	0.0102	0.0010	0.01	0	102	70	130				
Calcium	117	0.14	120	0	98	70	130				
Chromium	0.0208	0.0010	0.02	0	104	70	130				
Cobalt	0.0198	0.0010	0.02	0	99	70	130				
Lead	1.04E-05	0.0010		0		0	0				
Molybdenum	0.833	0.0010	0.8	0	104	70	130				
Nickel	0.0199	0.0010	0.02	0	100	70	130				
Selenium	0.0100	0.0010	0.01	0	100	70	130				
Silver	0.0199	0.0010	0.02	0	100	70	130				
Uranium	1.06E-05	0.00030		0		0	0				
Vanadium	0.0195	0.0010	0.02	0	97	70	130				

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140628

Run ID :Run Order: **ICP2-HE_181213B: 7** SampType: **Initial Calibration Verification Standard** Lab ID: **ICV** Method: **SW6010B**

Analysis Date: **12/13/18 09:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	**102**	90	110				
Barium	0.801	0.10	0.8	0	**100**	90	110				
Boron	0.786	0.10	0.8	0	**98**	90	110				
Cobalt	0.794	0.021	0.8	0	**99**	90	110				
Copper	0.800	0.012	0.8	0	**100**	90	110				
Iron	4.07	0.030	4	0	**102**	90	110				
Manganese	4.03	0.010	4	0	**101**	90	110				
Zinc	0.793	0.010	0.8	0	**99**	90	110				

Associated samples: **H18110574-018A, H18110574-019A, H18110574-021A, H18110574-022A, H18110574-024A, H18110574-025A, H18110574-027A, H18110574-028A, H18110574-030A, H18110574-031A, H18110574-033A, H18110574-034A, H18110574-036A, H18110574-037A, H18110574-039A, H18110574-040A, H18110574-042A, H18110574-043A, H18110574-045A, H18110574-046A, H18110574-048A, H18110574-049A, H18110574-051A, H18110574-052A, H18110574-054A, H18110574-055A, H18110574-057A, H18110574-058A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 11** SampType: **Interference Check Sample A** Lab ID: **ICSA** Method: **SW6010B**

Analysis Date: **12/13/18 09:47** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	541	0.10	500	0	**108**	80	120				
Barium	0.000200	0.10		0		0	0				
Boron	0.00504	0.10		0		0	0				
Cobalt	-0.00728	0.021		0		0	0				
Copper	0.00527	0.012		0		0	0				
Iron	184	0.030	200	0	**92**	80	120				
Manganese	-0.0154	0.010		0		0	0				
Zinc	0.00571	0.010		0		0	0				

Associated samples: **H18110574-018A, H18110574-019A, H18110574-021A, H18110574-022A, H18110574-024A, H18110574-025A, H18110574-027A, H18110574-028A, H18110574-030A, H18110574-031A, H18110574-033A, H18110574-034A, H18110574-036A, H18110574-037A, H18110574-039A, H18110574-040A, H18110574-042A, H18110574-043A, H18110574-045A, H18110574-046A, H18110574-048A, H18110574-049A, H18110574-051A, H18110574-052A, H18110574-054A, H18110574-055A, H18110574-057A, H18110574-058A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **ICP2-HE_181213B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/13/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	548	0.10	500	0	**110**	80	120				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140628

Run ID :Run Order: **ICP2-HE_181213B: 12** SampType: **Interference Check Sample AB** Lab ID: **ICSAB** Method: **SW6010B**

Analysis Date: **12/13/18 09:51** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.518	0.10	0.5	0	**104**	80	120				
Boron	0.988	0.10	1	0	**99**	80	120				
Cobalt	0.446	0.021	0.5	0	**89**	80	120				
Copper	0.520	0.012	0.5	0	**104**	80	120				
Iron	181	0.030	200	0	**91**	80	120				
Manganese	0.458	0.010	0.5	0	**92**	80	120				
Zinc	0.977	0.010	1	0	**98**	80	120				

Associated samples: **H18110574-018A, H18110574-019A, H18110574-021A, H18110574-022A, H18110574-024A, H18110574-025A, H18110574-027A, H18110574-028A, H18110574-030A, H18110574-031A, H18110574-033A, H18110574-034A, H18110574-036A, H18110574-037A, H18110574-039A, H18110574-040A, H18110574-042A, H18110574-043A, H18110574-045A, H18110574-046A, H18110574-048A, H18110574-049A, H18110574-051A, H18110574-052A, H18110574-054A, H18110574-055A, H18110574-057A, H18110574-058A, H18110574-060A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140712

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 1** SampType: **Sample Duplicate** Lab ID: **H18110574-018ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	20.3	0.20		0				19.49	4.0	20	

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 2** SampType: **Sample Duplicate** Lab ID: **H18110574-027ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	18.6	0.20		0				20.84	12	20	

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 3** SampType: **Sample Duplicate** Lab ID: **H18110574-036ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	24.3	0.20		0				24.04	1.2	20	

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 4** SampType: **Sample Duplicate** Lab ID: **H18110574-045ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	22.3	0.20		0				22.47	0.7	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: R140712

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 4** SampType: **Sample Duplicate** Lab ID: **H18110574-045ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Run ID :Run Order: **SOIL DRYING OVEN 2_181217B: 5** SampType: **Sample Duplicate** Lab ID: **H18110574-054ADUP** Method: **D2974**

Analysis Date: **12/18/18 11:33** Units: **wt%** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Moisture	22.8	0.20		0				23.6	**3.3**	20	

Associated samples: **H18110574-017A, H18110574-018A, H18110574-019A, H18110574-020A, H18110574-021A, H18110574-022A, H18110574-023A, H18110574-024A, H18110574-025A, H18110574-026A, H18110574-027A, H18110574-028A, H18110574-029A, H18110574-030A, H18110574-031A, H18110574-032A, H18110574-033A, H18110574-034A, H18110574-035A, H18110574-036A, H18110574-037A, H18110574-038A, H18110574-039A, H18110574-040A, H18110574-041A, H18110574-042A, H18110574-043A, H18110574-044A, H18110574-045A, H18110574-046A, H18110574-047A, H18110574-048A, H18110574-049A, H18110574-050A, H18110574-051A, H18110574-052A, H18110574-053A, H18110574-054A, H18110574-055A, H18110574-056A, H18110574-057A, H18110574-058A, H18110574-059A, H18110574-060A, H18110574-061A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: TSS181130A

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 1** SampType: **Method Blank** Lab ID: **MB-1_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-2_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:06** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	87.0	10	100	0	87	80	120				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 4** SampType: **Sample Duplicate** Lab ID: **H18110566-001ADUP** Method: **A2540 D**

Analysis Date: **11/30/18 14:07** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	248	40		0				248	0.0	5	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Sample Duplicate** Lab ID: **H18110570-001ADUP** Method: **A2540 D**

Analysis Date: **11/30/18 14:29** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	66.0	20		0				66	0.0	5	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Method Blank** Lab ID: **MB-25_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	ND	0.3									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Client: MT DEQ-Federal Superfund
Work Order: H18110574
Project: Silver Bow Creek SSTOU Monitoring

ANALYTICAL QC SUMMARY REPORT

Prepared by Helena, MT Branch

Date: *19-Dec-18*

BatchID: TSS181130A

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Method Blank** Lab ID: **MB-25_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 2** SampType: **Laboratory Control Sample** Lab ID: **LCS-26_181130A** Method: **A2540 D**

Analysis Date: **11/30/18 14:30** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	100.0	10	100	0	**100**	80	120				

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Run ID :Run Order: **ACCU-124 (14410200)_181130B: 3** SampType: **Sample Duplicate** Lab ID: **H18110575-001ADUP** Method: **A2540 D**

Analysis Date: **11/30/18 14:31** Units: **mg/L** **Prep Info:** Prep Date: Prep Method:

Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Suspended TSS @ 105 C	530	50		0				555	**4.6**	5	

Associated samples: **H18110574-001A, H18110574-002A, H18110574-003A, H18110574-004A, H18110574-005A, H18110574-006A, H18110574-007A, H18110574-008A, H18110574-009A, H18110574-010A, H18110574-011A, H18110574-012A, H18110574-013A, H18110574-014A, H18110574-015A, H18110574-016A**

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limit
R - RPD outside accepted recovery limits
N - Analyte concentration was not sufficiently high to calculate RPD
A - Analyte concentration greater than four times the spike amount

Work Order Receipt Checklist

MT DEQ-Federal Superfund

H18110574

Login completed by: Jessica C. Smith
Date Received: 11/30/2018
Reviewed by: BL2000\rtooke
Received by: RAT
Reviewed Date: 12/5/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	°C See Comments		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

Box 1 was received at 15.3 °C, Box 2 at 14.6 °C. No Ice. Cooler 1 was received at 0.0 °C, Cooler 2 at 0.0 °C, Cooler 3 at 0.2 °C, and Cooler 4 at 0.2 °C. On Ice. JCS 11/30/18

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Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	28921

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
C4	1 SS-06G	11/29/18	1430	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box1 14.6
C3	2 Field Blank #2 SS-07	11/29/18	1330	5	W	✓	✓	✓	✓	✓	✓	✓	✓				Box2 15.3
C3	3 SS-07	11/29/18	1345	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 0.0
C4	4 SS-08	11/29/18	1245	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 0.0
	5 SS-10A	11/29/18	1115	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 0.2
	6 SS-11C	11/29/18	0945	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C4 0.2
	7 SS-11D	11/29/18	0915	5	W	✓	✓	✓	✓	✓	✓	✓	✓				H18110574
C1	8 SS-13	11/28/18	1700	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	9 SS-14	11/28/18	1600	5	W	✓	✓	✓	✓	✓	✓	✓	✓				
C1	10 SS-15A-2	11/28/18	1430	5	W	✓	✓	✓	✓	✓	✓	✓	✓				

JB

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	11/30/18 1031	Tanner Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Tooke	11/30/18 1031	Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
hand	454, 21 24, 214	Y N C B	Y N	see com °C	Y N cooler box	Y N cooler box	CC Cash Check_____	$	

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Chain of Custody & Analytical Request Record

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Account Information (Billing information)

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	28921

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

Dissolved metals field filtered; lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TR Metals (see list)	Diss Metals (see list)	TPN	NH3, NO3+NO2, TP	TSS	Hardness (TR Ca & Mg)	Tot. Alkalinity, HCO3	SO4, Cl, K, Na	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
C2	1 SS-15B	11/28/18	1315	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B1 14.6
C2	2 SS-15B Duplicate	11/28/18	1315	5	W	✓	✓	✓	✓	✓	✓	✓	✓				B2 15.3
C2	3 SS-16B	11/28/18	1130	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C1 0.0
C2	4 Field Blank #1 SS-17D	11/28/18	1000	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C2 0.0 TB
C2	5 SS-17D	11/28/18	1015	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C3 0.2
C2	6 SS-19	11/28/18	0900	5	W	✓	✓	✓	✓	✓	✓	✓	✓				C4 0.2
B1	7 SS-06G	11/29/18	1430	1	S									✓			H18110574
B1	8 SS-07	11/29/18	1345	1	S									✓			
B1	9 SS-07 Duplicate	11/29/18	1345	1	S									✓			
B1	10 SS-08	11/29/18	1245	1	S									✓			

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	11/30/18 1031	Tanner Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Tooke	11/30/18 1031	Rebecca Tooke

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
hand	454, 21 29, 214	Y (N) C B	Y N	see com °C	(Y) N coolers pox	(Y) N cooler pox	CC Cash Check	$	

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Account Information *(Billing information)*

Company/Name	MTDEQ
Contact	Ben Quinones
Phone	(404) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	28921

Report Information *(if different than Account Information)*

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
B1	1 SS-10A	11/29/18	1115	1	S	✓			B1 14.6
B1	2 SS-11C	11/29/18	0945	1	S	✓			B2 15.3
B1	3 SS-11D	11/29/18	0915	1	S	✓			C1 0.0
B2	4 SS-13	11/28/18	1700	1	S	✓			C2 0.0
B2	5 SS-14	11/28/18	1600	1	S	✓			C3 0.2 TB
B2	6 SS-14 Duplicate	11/28/18	1600	1	S	✓			C4 0.2
B2	7 SS-15A-2	11/28/18	1430	1	S	✓			H18110574
B2	8 SS-15B	11/28/18	1315	1	S	✓			
B2	9 SS-16B	11/28/18	1130	1	S	✓			
B2	10 SS-17D	11/28/18	1015	1	S	✓			

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Traxler	11/30/18 1031	Tanner Traxler			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Isabella Tootle	11/30/18 1031	Isabella Tootle

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Hand	459.19, 21, 214	Y N C B	Y N	see com °C	Y N cooler box	Y N cooler box	CC Cash Check_____	$	

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Account Information (Billing information)

Company/Name	MTDEQ
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Mailing Address	MT DEQ, P.O. Box 200901-0901
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Email	bequinones@mt.gov
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	
Quote	1088
Bottle Order	28921

Report Information (if different than Account Information)

Company/Name	MTDEQ
Contact	Ben Quinones bequinones@mt.gov; Joe Naughton
Phone	(406) 444-6593
Mailing Address	MT DEQ, P.O. Box 200901-0901
City, State, Zip	Helena, MT 59620-0901
Email	joe.naughton@respec.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other

Comments

lab to sieve sediment samples into 3 size fractions, report as dry weight concentrations

Project Information

Project Name, PWSID, Permit, etc.	Silver Bow Creek SSTOU Monitoring
Sampler Name	Joe Naughton
Sampler Phone	(406) 214-4478
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Analysis Requested: Tot Metals, dry weight (see list)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	SS-19	11/28/18	0915	1	S	✓			B1 14.6
2									B2 15.3
3									C1 0.0)
4									C2 0.0)
5									C3 0.2) 18
6									C4 0.2)
7									H18110574
8									
9									
10									

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Thaxter	11/30/18 1031				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Hooke	11/30/18 1031	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Fedex	454, 21, 22, 214	Y N C B	Y N	see com °C	Y N cooler	Y N cooler	CC Cash Check	$	

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APPENDIX C

Surface Water Data

Table C-1. First quarter surface water results from the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	21-Mar-18	12:00	QC-FB	Alkalinity, total	as CaCO3	Total	2	mg/l	J	0.7	4
SS-14	21-Mar-18	16:15	QC-FD	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-13	21-Mar-18	17:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-14	21-Mar-18	16:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-15B	21-Mar-18	12:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-16B	21-Mar-18	10:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	98	mg/l		0.7	4
SS-17D	21-Mar-18	9:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	93	mg/l		0.7	4
SS-19	21-Mar-18	8:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	95	mg/l		0.7	4
SS-15B	21-Mar-18	12:00	QC-FB	Aluminum		Dissolved	<0.0007	mg/l		0.0007	0.009
SS-14	21-Mar-18	16:15	QC-FD	Aluminum		Dissolved	0.0068	mg/l	J	0.0007	0.009
SS-13	21-Mar-18	17:30	S-ROUTINE	Aluminum		Dissolved	0.0081	mg/l	J	0.0007	0.009
SS-14	21-Mar-18	16:15	S-ROUTINE	Aluminum		Dissolved	0.0078	mg/l	J	0.0007	0.009
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Aluminum		Dissolved	0.0084	mg/l	J	0.0007	0.009
SS-15B	21-Mar-18	12:45	S-ROUTINE	Aluminum		Dissolved	0.0067	mg/l	J	0.0007	0.009
SS-16B	21-Mar-18	10:45	S-ROUTINE	Aluminum		Dissolved	0.0075	mg/l	J	0.0007	0.009
SS-17D	21-Mar-18	9:45	S-ROUTINE	Aluminum		Dissolved	0.0077	mg/l	J	0.0007	0.009
SS-19	21-Mar-18	8:45	S-ROUTINE	Aluminum		Dissolved	0.007	mg/l	J	0.0007	0.009
SS-15B	21-Mar-18	12:00	QC-FB	Aluminum		Total Recv	<0.003	mg/l		0.003	0.009
SS-14	21-Mar-18	16:15	QC-FD	Aluminum		Total Recv	0.372	mg/l		0.003	0.009
SS-13	21-Mar-18	17:30	S-ROUTINE	Aluminum		Total Recv	0.409	mg/l		0.003	0.009
SS-14	21-Mar-18	16:15	S-ROUTINE	Aluminum		Total Recv	0.4	mg/l		0.003	0.009
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Aluminum		Total Recv	0.572	mg/l		0.003	0.009
SS-15B	21-Mar-18	12:45	S-ROUTINE	Aluminum		Total Recv	0.525	mg/l		0.003	0.009
SS-16B	21-Mar-18	10:45	S-ROUTINE	Aluminum		Total Recv	0.672	mg/l		0.003	0.009
SS-17D	21-Mar-18	9:45	S-ROUTINE	Aluminum		Total Recv	1.13	mg/l		0.003	0.009
SS-19	21-Mar-18	8:45	S-ROUTINE	Aluminum		Total Recv	1.33	mg/l		0.003	0.009
SS-15B	21-Mar-18	12:00	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-14	21-Mar-18	16:15	QC-FD	Ammonia	as N	Unfiltered	0.6	mg/l		0.02	0.05
SS-13	21-Mar-18	17:30	S-ROUTINE	Ammonia	as N	Unfiltered	0.54	mg/l		0.02	0.05
SS-14	21-Mar-18	16:15	S-ROUTINE	Ammonia	as N	Unfiltered	0.59	mg/l		0.02	0.05
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Ammonia	as N	Unfiltered	0.88	mg/l		0.02	0.05
SS-15B	21-Mar-18	12:45	S-ROUTINE	Ammonia	as N	Unfiltered	0.72	mg/l		0.02	0.05
SS-16B	21-Mar-18	10:45	S-ROUTINE	Ammonia	as N	Unfiltered	0.74	mg/l		0.02	0.05
SS-17D	21-Mar-18	9:45	S-ROUTINE	Ammonia	as N	Unfiltered	0.5	mg/l		0.02	0.05
SS-19	21-Mar-18	8:45	S-ROUTINE	Ammonia	as N	Unfiltered	0.45	mg/l		0.02	0.05
SS-15B	21-Mar-18	12:00	QC-FB	Antimony		Dissolved	<0.00002	mg/l		0.00002	0.0005
SS-14	21-Mar-18	16:15	QC-FD	Antimony		Dissolved	0.0002	mg/l	J	0.00002	0.0005
SS-13	21-Mar-18	17:30	S-ROUTINE	Antimony		Dissolved	0.00026	mg/l	J	0.00002	0.0005
SS-14	21-Mar-18	16:15	S-ROUTINE	Antimony		Dissolved	0.00019	mg/l	J	0.00002	0.0005
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Antimony		Dissolved	0.00028	mg/l	J	0.00002	0.0005
SS-15B	21-Mar-18	12:45	S-ROUTINE	Antimony		Dissolved	0.0002	mg/l	J	0.00002	0.0005
SS-16B	21-Mar-18	10:45	S-ROUTINE	Antimony		Dissolved	0.00027	mg/l	J	0.00002	0.0005
SS-17D	21-Mar-18	9:45	S-ROUTINE	Antimony		Dissolved	0.00028	mg/l	J	0.00002	0.0005
SS-19	21-Mar-18	8:45	S-ROUTINE	Antimony		Dissolved	0.00027	mg/l	J	0.00002	0.0005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	21-Mar-18	12:00	QC-FB	Antimony		Total Recv	0.00005	mg/l	J	0.00002	0.0005
SS-14	21-Mar-18	16:15	QC-FD	Antimony		Total Recv	0.00045	mg/l	J	0.00002	0.0005
SS-13	21-Mar-18	17:30	S-ROUTINE	Antimony		Total Recv	0.00037	mg/l	J	0.00002	0.0005
SS-14	21-Mar-18	16:15	S-ROUTINE	Antimony		Total Recv	0.00031	mg/l	J	0.00002	0.0005
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Antimony		Total Recv	0.00044	mg/l	J	0.00002	0.0005
SS-15B	21-Mar-18	12:45	S-ROUTINE	Antimony		Total Recv	0.00048	mg/l	J	0.00002	0.0005
SS-16B	21-Mar-18	10:45	S-ROUTINE	Antimony		Total Recv	0.00042	mg/l	J	0.00002	0.0005
SS-17D	21-Mar-18	9:45	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l		0.00002	0.0005
SS-19	21-Mar-18	8:45	S-ROUTINE	Antimony		Total Recv	0.00037	mg/l	J	0.00002	0.0005
SS-15B	21-Mar-18	12:00	QC-FB	Arsenic		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-14	21-Mar-18	16:15	QC-FD	Arsenic		Dissolved	0.009	mg/l		0.00002	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Arsenic		Dissolved	0.011	mg/l		0.00002	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Arsenic		Dissolved	0.01	mg/l		0.00002	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00002	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Arsenic		Dissolved	0.01	mg/l		0.00002	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00002	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00002	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00002	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Arsenic		Total Recv	<0.00002	mg/l		0.00002	0.001
SS-14	21-Mar-18	16:15	QC-FD	Arsenic		Total Recv	0.011	mg/l		0.00002	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Arsenic		Total Recv	0.012	mg/l		0.00002	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Arsenic		Total Recv	0.012	mg/l		0.00002	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Arsenic		Total Recv	0.013	mg/l		0.00002	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Arsenic		Total Recv	0.011	mg/l		0.00002	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Arsenic		Total Recv	0.014	mg/l		0.00002	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Arsenic		Total Recv	0.015	mg/l		0.00002	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Arsenic		Total Recv	0.015	mg/l		0.00002	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Barium		Dissolved	0.008	mg/l		0.00002	0.003
SS-14	21-Mar-18	16:15	QC-FD	Barium		Dissolved	0.044	mg/l		0.00002	0.003
SS-13	21-Mar-18	17:30	S-ROUTINE	Barium		Dissolved	0.045	mg/l		0.00002	0.003
SS-14	21-Mar-18	16:15	S-ROUTINE	Barium		Dissolved	0.039	mg/l	B	0.00002	0.003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Barium		Dissolved	0.042	mg/l		0.00002	0.003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Barium		Dissolved	0.036	mg/l	B	0.00002	0.003
SS-16B	21-Mar-18	10:45	S-ROUTINE	Barium		Dissolved	0.038	mg/l	B	0.00002	0.003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Barium		Dissolved	0.035	mg/l	B	0.00002	0.003
SS-19	21-Mar-18	8:45	S-ROUTINE	Barium		Dissolved	0.037	mg/l	B	0.00002	0.003
SS-15B	21-Mar-18	12:00	QC-FB	Barium		Total Recv	<0.00006	mg/l		0.00006	0.003
SS-14	21-Mar-18	16:15	QC-FD	Barium		Total Recv	0.046	mg/l		0.00006	0.003
SS-13	21-Mar-18	17:30	S-ROUTINE	Barium		Total Recv	0.051	mg/l		0.00006	0.003
SS-14	21-Mar-18	16:15	S-ROUTINE	Barium		Total Recv	0.052	mg/l		0.00006	0.003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Barium		Total Recv	0.05	mg/l		0.00006	0.003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Barium		Total Recv	0.044	mg/l		0.00006	0.003
SS-16B	21-Mar-18	10:45	S-ROUTINE	Barium		Total Recv	0.047	mg/l		0.00006	0.003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Barium		Total Recv	0.048	mg/l		0.00006	0.003
SS-19	21-Mar-18	8:45	S-ROUTINE	Barium		Total Recv	0.053	mg/l		0.00006	0.003
SS-15B	21-Mar-18	12:00	QC-FB	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-14	21-Mar-18	16:15	QC-FD	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-13	21-Mar-18	17:30	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	21-Mar-18	16:15	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-15B	21-Mar-18	12:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-16B	21-Mar-18	10:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-17D	21-Mar-18	9:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-19	21-Mar-18	8:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-15B	21-Mar-18	12:00	QC-FB	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-14	21-Mar-18	16:15	QC-FD	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-13	21-Mar-18	17:30	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-14	21-Mar-18	16:15	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-15B	21-Mar-18	12:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-16B	21-Mar-18	10:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-17D	21-Mar-18	9:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-19	21-Mar-18	8:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-15B	21-Mar-18	12:00	QC-FB	Bicarbonate	as HCO3	Total	2	mg/l	J	0.7	4
SS-14	21-Mar-18	16:15	QC-FD	Bicarbonate	as HCO3	Total	130	mg/l		0.7	4
SS-13	21-Mar-18	17:30	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		0.7	4
SS-14	21-Mar-18	16:15	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		0.7	4
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		0.7	4
SS-15B	21-Mar-18	12:45	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		0.7	4
SS-16B	21-Mar-18	10:45	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		0.7	4
SS-17D	21-Mar-18	9:45	S-ROUTINE	Bicarbonate	as HCO3	Total	110	mg/l		0.7	4
SS-19	21-Mar-18	8:45	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		0.7	4
SS-15B	21-Mar-18	12:00	QC-FB	Boron		Dissolved	<0.003	mg/l		0.003	0.1
SS-14	21-Mar-18	16:15	QC-FD	Boron		Dissolved	0.059	mg/l	J	0.003	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Boron		Dissolved	0.058	mg/l	J	0.003	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Boron		Dissolved	0.062	mg/l	J	0.003	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Boron		Dissolved	0.062	mg/l	J	0.003	0.1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Boron		Dissolved	0.053	mg/l	J	0.003	0.1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Boron		Dissolved	0.062	mg/l	J	0.003	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Boron		Dissolved	0.047	mg/l	J	0.003	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Boron		Dissolved	0.051	mg/l	J	0.003	0.1
SS-15B	21-Mar-18	12:00	QC-FB	Boron		Total Recv	<0.002	mg/l		0.002	0.1
SS-14	21-Mar-18	16:15	QC-FD	Boron		Total Recv	0.059	mg/l	J	0.002	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Boron		Total Recv	0.056	mg/l	J	0.002	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Boron		Total Recv	0.057	mg/l	J	0.002	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Boron		Total Recv	0.059	mg/l	J	0.002	0.1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Boron		Total Recv	0.054	mg/l	J	0.002	0.1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Boron		Total Recv	0.063	mg/l	J	0.002	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Boron		Total Recv	0.049	mg/l	J	0.002	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Boron		Total Recv	0.047	mg/l	J	0.002	0.1
SS-15B	21-Mar-18	12:00	QC-FB	Cadmium		Dissolved	<0.00002	mg/l		0.00002	0.00003
SS-14	21-Mar-18	16:15	QC-FD	Cadmium		Dissolved	0.00034	mg/l		0.00002	0.00003
SS-13	21-Mar-18	17:30	S-ROUTINE	Cadmium		Dissolved	0.00027	mg/l		0.00002	0.00003
SS-14	21-Mar-18	16:15	S-ROUTINE	Cadmium		Dissolved	0.00025	mg/l		0.00002	0.00003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cadmium		Dissolved	0.00025	mg/l		0.00002	0.00003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cadmium		Dissolved	0.0002	mg/l		0.00002	0.00003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cadmium		Dissolved	0.00022	mg/l		0.00002	0.00003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cadmium		Dissolved	0.00027	mg/l		0.00002	0.00003
SS-19	21-Mar-18	8:45	S-ROUTINE	Cadmium		Dissolved	0.00027	mg/l		0.00002	0.00003
SS-15B	21-Mar-18	12:00	QC-FB	Cadmium		Total Recv	<0.00002	mg/l		0.00002	0.00003
SS-14	21-Mar-18	16:15	QC-FD	Cadmium		Total Recv	0.00059	mg/l		0.00002	0.00003
SS-13	21-Mar-18	17:30	S-ROUTINE	Cadmium		Total Recv	0.00054	mg/l		0.00002	0.00003
SS-14	21-Mar-18	16:15	S-ROUTINE	Cadmium		Total Recv	0.00056	mg/l		0.00002	0.00003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cadmium		Total Recv	0.00056	mg/l		0.00002	0.00003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cadmium		Total Recv	0.00044	mg/l		0.00002	0.00003
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cadmium		Total Recv	0.00053	mg/l		0.00002	0.00003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cadmium		Total Recv	0.00065	mg/l		0.00002	0.00003
SS-19	21-Mar-18	8:45	S-ROUTINE	Cadmium		Total Recv	0.00073	mg/l		0.00002	0.00003
SS-15B	21-Mar-18	12:00	QC-FB	Calcium		Dissolved	0.37	mg/l	J	0.01	1
SS-14	21-Mar-18	16:15	QC-FD	Calcium		Dissolved	53	mg/l		0.01	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Calcium		Dissolved	53	mg/l		0.01	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Calcium		Dissolved	53	mg/l		0.01	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Calcium		Dissolved	50	mg/l		0.01	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Calcium		Dissolved	46	mg/l		0.01	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Calcium		Dissolved	47	mg/l		0.01	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Calcium		Dissolved	44	mg/l		0.01	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Calcium		Dissolved	45	mg/l		0.01	1
SS-15B	21-Mar-18	12:00	QC-FB	Calcium		Total Recv	0.58	mg/l	J	0.01	1
SS-14	21-Mar-18	16:15	QC-FD	Calcium		Total Recv	54	mg/l		0.01	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Calcium		Total Recv	55	mg/l		0.01	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Calcium		Total Recv	54	mg/l		0.01	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Calcium		Total Recv	51	mg/l		0.01	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Calcium		Total Recv	47	mg/l		0.01	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Calcium		Total Recv	48	mg/l		0.01	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Calcium		Total Recv	45	mg/l		0.01	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Calcium		Total Recv	46	mg/l		0.01	1
SS-15B	21-Mar-18	12:00	QC-FB	Chloride		Total	0.1	mg/l	J	0.003	1
SS-14	21-Mar-18	16:15	QC-FD	Chloride		Total	50	mg/l		0.003	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Chloride		Total	50	mg/l		0.003	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Chloride		Total	50	mg/l		0.003	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Chloride		Total	48	mg/l		0.003	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Chloride		Total	39	mg/l		0.003	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Chloride		Total	45	mg/l		0.003	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Chloride		Total	37	mg/l		0.003	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Chloride		Total	36	mg/l		0.003	1
SS-15B	21-Mar-18	12:00	QC-FB	Chromium		Dissolved	<0.00003	mg/l		0.00003	0.01
SS-14	21-Mar-18	16:15	QC-FD	Chromium		Dissolved	0.00009	mg/l	J	0.00003	0.01
SS-13	21-Mar-18	17:30	S-ROUTINE	Chromium		Dissolved	0.00008	mg/l	J	0.00003	0.01
SS-14	21-Mar-18	16:15	S-ROUTINE	Chromium		Dissolved	0.00009	mg/l	J	0.00003	0.01
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Chromium		Dissolved	0.00009	mg/l	J	0.00003	0.01
SS-15B	21-Mar-18	12:45	S-ROUTINE	Chromium		Dissolved	0.00009	mg/l	J	0.00003	0.01
SS-16B	21-Mar-18	10:45	S-ROUTINE	Chromium		Dissolved	0.00008	mg/l	J	0.00003	0.01
SS-17D	21-Mar-18	9:45	S-ROUTINE	Chromium		Dissolved	0.00008	mg/l	J	0.00003	0.01
SS-19	21-Mar-18	8:45	S-ROUTINE	Chromium		Dissolved	0.00009	mg/l	J	0.00003	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	21-Mar-18	12:00	QC-FB	Chromium		Total Recv	<0.0002	mg/l		0.0002	0.01
SS-14	21-Mar-18	16:15	QC-FD	Chromium		Total Recv	0.0006	mg/l	J	0.0002	0.01
SS-13	21-Mar-18	17:30	S-ROUTINE	Chromium		Total Recv	0.0005	mg/l	J	0.0002	0.01
SS-14	21-Mar-18	16:15	S-ROUTINE	Chromium		Total Recv	0.0005	mg/l	J	0.0002	0.01
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Chromium		Total Recv	0.0008	mg/l	J	0.0002	0.01
SS-15B	21-Mar-18	12:45	S-ROUTINE	Chromium		Total Recv	0.0007	mg/l	J	0.0002	0.01
SS-16B	21-Mar-18	10:45	S-ROUTINE	Chromium		Total Recv	0.0007	mg/l	J	0.0002	0.01
SS-17D	21-Mar-18	9:45	S-ROUTINE	Chromium		Total Recv	0.001	mg/l	J	0.0002	0.01
SS-19	21-Mar-18	8:45	S-ROUTINE	Chromium		Total Recv	0.0012	mg/l	J	0.0002	0.01
SS-15B	21-Mar-18	12:00	QC-FB	Cobalt		Dissolved	<0.00002	mg/l		0.00002	0.01
SS-14	21-Mar-18	16:15	QC-FD	Cobalt		Dissolved	0.0003	mg/l	J	0.00002	0.01
SS-13	21-Mar-18	17:30	S-ROUTINE	Cobalt		Dissolved	0.00027	mg/l	J	0.00002	0.01
SS-14	21-Mar-18	16:15	S-ROUTINE	Cobalt		Dissolved	0.00031	mg/l	J	0.00002	0.01
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cobalt		Dissolved	0.00029	mg/l	J	0.00002	0.01
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cobalt		Dissolved	0.00046	mg/l	J	0.00002	0.01
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cobalt		Dissolved	0.00032	mg/l	J	0.00002	0.01
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cobalt		Dissolved	0.0003	mg/l	J	0.00002	0.01
SS-19	21-Mar-18	8:45	S-ROUTINE	Cobalt		Dissolved	0.00026	mg/l	J	0.00002	0.01
SS-15B	21-Mar-18	12:00	QC-FB	Cobalt		Total Recv	<0.00002	mg/l		0.00002	0.01
SS-14	21-Mar-18	16:15	QC-FD	Cobalt		Total Recv	0.00044	mg/l	J	0.00002	0.01
SS-13	21-Mar-18	17:30	S-ROUTINE	Cobalt		Total Recv	0.00044	mg/l	J	0.00002	0.01
SS-14	21-Mar-18	16:15	S-ROUTINE	Cobalt		Total Recv	0.00047	mg/l	J	0.00002	0.01
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cobalt		Total Recv	0.00051	mg/l	J	0.00002	0.01
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cobalt		Total Recv	0.00062	mg/l	J	0.00002	0.01
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cobalt		Total Recv	0.00059	mg/l	J	0.00002	0.01
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cobalt		Total Recv	0.0007	mg/l	J	0.00002	0.01
SS-19	21-Mar-18	8:45	S-ROUTINE	Cobalt		Total Recv	0.00073	mg/l	J	0.00002	0.01
SS-15B	21-Mar-18	12:00	QC-FB	Copper		Dissolved	0.00008	mg/l	J	0.00004	0.001
SS-14	21-Mar-18	16:15	QC-FD	Copper		Dissolved	0.015	mg/l		0.00004	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Copper		Dissolved	0.015	mg/l		0.00004	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Copper		Dissolved	0.016	mg/l		0.00004	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Copper		Dissolved	0.019	mg/l		0.00004	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Copper		Dissolved	0.016	mg/l		0.00004	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Copper		Dissolved	0.017	mg/l		0.00004	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Copper		Dissolved	0.019	mg/l		0.00004	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Copper		Dissolved	0.019	mg/l		0.00004	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Copper		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-14	21-Mar-18	16:15	QC-FD	Copper		Total Recv	0.027	mg/l		0.0003	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Copper		Total Recv	0.027	mg/l		0.0003	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Copper		Total Recv	0.029	mg/l		0.0003	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Copper		Total Recv	0.037	mg/l		0.0003	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Copper		Total Recv	0.029	mg/l		0.0003	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Copper		Total Recv	0.035	mg/l		0.0003	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Copper		Total Recv	0.04	mg/l		0.0003	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Copper		Total Recv	0.042	mg/l		0.0003	0.001
SS-13	21-Mar-18	17:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.8	mg/l			
SS-14	21-Mar-18	16:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.5	mg/l			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.5	mg/l			

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	21-Mar-18	12:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.8	mg/l			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	12	mg/l			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.5	mg/l			
SS-17D	21-Mar-18	9:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.2	mg/l			
SS-19	21-Mar-18	8:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.5	mg/l			
SS-13	21-Mar-18	17:30	F-MSR/OBS	Dissolved oxygen saturation		NA	96	%			
SS-14	21-Mar-18	16:15	F-MSR/OBS	Dissolved oxygen saturation		NA	92	%			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	Dissolved oxygen saturation		NA	99	%			
SS-15B	21-Mar-18	12:45	F-MSR/OBS	Dissolved oxygen saturation		NA	97	%			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	Dissolved oxygen saturation		NA	101	%			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	Dissolved oxygen saturation		NA	100	%			
SS-17D	21-Mar-18	9:45	F-MSR/OBS	Dissolved oxygen saturation		NA	96	%			
SS-19	21-Mar-18	8:45	F-MSR/OBS	Dissolved oxygen saturation		NA	100	%			
SS-13	21-Mar-18	17:30	F-MSR/OBS	Flow		NA	47.83	ft3/sec			
SS-14	21-Mar-18	16:15	F-MSR/OBS	Flow		NA	45.75	ft3/sec			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	Flow		NA	44.18	ft3/sec			
SS-15B	21-Mar-18	12:45	F-MSR/OBS	Flow		NA	59.78	ft3/sec			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	Flow		NA	9.38	ft3/sec			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	Flow		NA	61.82	ft3/sec			
SS-19	21-Mar-18	8:45	F-MSR/OBS	Flow		NA	70.32	ft3/sec			
SS-15B	21-Mar-18	12:00	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	2	mg/l		1	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	187	mg/l		1	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	187	mg/l		1	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	179	mg/l		1	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	163	mg/l		1	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	168	mg/l		1	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	157	mg/l		1	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	159	mg/l		1	1
SS-15B	21-Mar-18	12:00	QC-FB	Iron		Dissolved	0.007	mg/l	J	0.002	0.02
SS-14	21-Mar-18	16:15	QC-FD	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-13	21-Mar-18	17:30	S-ROUTINE	Iron		Dissolved	0.11	mg/l		0.002	0.02
SS-14	21-Mar-18	16:15	S-ROUTINE	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-15B	21-Mar-18	12:45	S-ROUTINE	Iron		Dissolved	0.08	mg/l		0.002	0.02
SS-16B	21-Mar-18	10:45	S-ROUTINE	Iron		Dissolved	0.1	mg/l		0.002	0.02
SS-17D	21-Mar-18	9:45	S-ROUTINE	Iron		Dissolved	0.08	mg/l		0.002	0.02
SS-19	21-Mar-18	8:45	S-ROUTINE	Iron		Dissolved	0.08	mg/l		0.002	0.02
SS-15B	21-Mar-18	12:00	QC-FB	Iron		Total Recv	<0.02	mg/l		0.02	0.02
SS-14	21-Mar-18	16:15	QC-FD	Iron		Total Recv	0.56	mg/l		0.02	0.02
SS-13	21-Mar-18	17:30	S-ROUTINE	Iron		Total Recv	0.57	mg/l		0.02	0.02
SS-14	21-Mar-18	16:15	S-ROUTINE	Iron		Total Recv	0.6	mg/l		0.02	0.02
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Iron		Total Recv	0.78	mg/l		0.02	0.02
SS-15B	21-Mar-18	12:45	S-ROUTINE	Iron		Total Recv	0.66	mg/l		0.02	0.02
SS-16B	21-Mar-18	10:45	S-ROUTINE	Iron		Total Recv	0.83	mg/l		0.02	0.02
SS-17D	21-Mar-18	9:45	S-ROUTINE	Iron		Total Recv	1.11	mg/l		0.02	0.02
SS-19	21-Mar-18	8:45	S-ROUTINE	Iron		Total Recv	1.26	mg/l		0.02	0.02
SS-15B	21-Mar-18	12:00	QC-FB	Lead		Dissolved	<0.00001	mg/l		0.00001	0.0003
SS-14	21-Mar-18	16:15	QC-FD	Lead		Dissolved	0.0003	mg/l	J	0.00001	0.0003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	21-Mar-18	17:30	S-ROUTINE	Lead		Dissolved	0.00029	mg/l	J	0.00001	0.0003
SS-14	21-Mar-18	16:15	S-ROUTINE	Lead		Dissolved	0.00026	mg/l	J	0.00001	0.0003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00001	0.0003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Lead		Dissolved	0.00029	mg/l	J	0.00001	0.0003
SS-16B	21-Mar-18	10:45	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00001	0.0003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Lead		Dissolved	0.00029	mg/l	J	0.00001	0.0003
SS-19	21-Mar-18	8:45	S-ROUTINE	Lead		Dissolved	0.00026	mg/l	J	0.00001	0.0003
SS-15B	21-Mar-18	12:00	QC-FB	Lead		Total Recv	<0.00003	mg/l		0.00003	0.0003
SS-14	21-Mar-18	16:15	QC-FD	Lead		Total Recv	0.0023	mg/l		0.00003	0.0003
SS-13	21-Mar-18	17:30	S-ROUTINE	Lead		Total Recv	0.0027	mg/l		0.00003	0.0003
SS-14	21-Mar-18	16:15	S-ROUTINE	Lead		Total Recv	0.0026	mg/l		0.00003	0.0003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Lead		Total Recv	0.0038	mg/l		0.00003	0.0003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Lead		Total Recv	0.003	mg/l		0.00003	0.0003
SS-16B	21-Mar-18	10:45	S-ROUTINE	Lead		Total Recv	0.0039	mg/l		0.00003	0.0003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Lead		Total Recv	0.0051	mg/l		0.00003	0.0003
SS-19	21-Mar-18	8:45	S-ROUTINE	Lead		Total Recv	0.0041	mg/l		0.00003	0.0003
SS-15B	21-Mar-18	12:00	QC-FB	Magnesium		Dissolved	0.013	mg/l	J	0.005	1
SS-14	21-Mar-18	16:15	QC-FD	Magnesium		Dissolved	12	mg/l		0.05	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.05	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.05	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.05	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Magnesium		Dissolved	11	mg/l		0.05	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Magnesium		Dissolved	11	mg/l		0.05	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Magnesium		Dissolved	10	mg/l		0.05	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Magnesium		Dissolved	10	mg/l		0.05	1
SS-15B	21-Mar-18	12:00	QC-FB	Magnesium		Total Recv	0.023	mg/l	J	0.009	1
SS-14	21-Mar-18	16:15	QC-FD	Magnesium		Total Recv	13	mg/l		0.09	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.09	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Magnesium		Total Recv	13	mg/l		0.09	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.09	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Magnesium		Total Recv	11	mg/l		0.09	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.09	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Magnesium		Total Recv	11	mg/l		0.09	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Magnesium		Total Recv	11	mg/l		0.09	1
SS-15B	21-Mar-18	12:00	QC-FB	Manganese		Dissolved	0.0001	mg/l	J	0.00003	0.001
SS-14	21-Mar-18	16:15	QC-FD	Manganese		Dissolved	0.297	mg/l		0.00003	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Manganese		Dissolved	0.291	mg/l		0.00003	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Manganese		Dissolved	0.3	mg/l		0.00003	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Manganese		Dissolved	0.273	mg/l		0.00003	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Manganese		Dissolved	0.202	mg/l		0.00003	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Manganese		Dissolved	0.225	mg/l		0.00003	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Manganese		Dissolved	0.146	mg/l		0.00003	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Manganese		Dissolved	0.121	mg/l		0.00003	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Manganese		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-14	21-Mar-18	16:15	QC-FD	Manganese		Total Recv	0.334	mg/l		0.0002	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Manganese		Total Recv	0.34	mg/l		0.0002	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Manganese		Total Recv	0.352	mg/l		0.0002	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Manganese		Total Recv	0.323	mg/l		0.0002	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	21-Mar-18	12:45	S-ROUTINE	Manganese		Total Recv	0.248	mg/l		0.0002	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Manganese		Total Recv	0.296	mg/l		0.0002	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Manganese		Total Recv	0.263	mg/l		0.0002	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Manganese		Total Recv	0.246	mg/l		0.0002	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-14	21-Mar-18	16:15	QC-FD	Mercury		Dissolved	0.0000021	mg/l	J	0.000001	0.000005
SS-13	21-Mar-18	17:30	S-ROUTINE	Mercury		Dissolved	0.0000086	mg/l		0.000001	0.000005
SS-14	21-Mar-18	16:15	S-ROUTINE	Mercury		Dissolved	0.0000079	mg/l		0.000001	0.000005
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Mercury		Dissolved	0.0000041	mg/l	J	0.000001	0.000005
SS-15B	21-Mar-18	12:45	S-ROUTINE	Mercury		Dissolved	0.0000037	mg/l	J	0.000001	0.000005
SS-16B	21-Mar-18	10:45	S-ROUTINE	Mercury		Dissolved	0.0000055	mg/l		0.000001	0.000005
SS-17D	21-Mar-18	9:45	S-ROUTINE	Mercury		Dissolved	0.0000057	mg/l		0.000001	0.000005
SS-19	21-Mar-18	8:45	S-ROUTINE	Mercury		Dissolved	0.0000055	mg/l		0.000001	0.000005
SS-15B	21-Mar-18	12:00	QC-FB	Mercury		Total Recv	<0.000001	mg/l		0.000001	0.000005
SS-14	21-Mar-18	16:15	QC-FD	Mercury		Total Recv	0.0000139	mg/l		0.000001	0.000005
SS-13	21-Mar-18	17:30	S-ROUTINE	Mercury		Total Recv	0.0000192	mg/l		0.000001	0.000005
SS-14	21-Mar-18	16:15	S-ROUTINE	Mercury		Total Recv	0.0000194	mg/l		0.000001	0.000005
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Mercury		Total Recv	0.0000181	mg/l		0.000001	0.000005
SS-15B	21-Mar-18	12:45	S-ROUTINE	Mercury		Total Recv	0.0000157	mg/l		0.000001	0.000005
SS-16B	21-Mar-18	10:45	S-ROUTINE	Mercury		Total Recv	0.0000267	mg/l		0.000001	0.000005
SS-17D	21-Mar-18	9:45	S-ROUTINE	Mercury		Total Recv	0.0000338	mg/l		0.000001	0.000005
SS-19	21-Mar-18	8:45	S-ROUTINE	Mercury		Total Recv	0.0000366	mg/l		0.000001	0.000005
SS-15B	21-Mar-18	12:00	QC-FB	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-14	21-Mar-18	16:15	QC-FD	Molybdenum		Dissolved	0.0043	mg/l	J	0.00002	0.005
SS-13	21-Mar-18	17:30	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-14	21-Mar-18	16:15	S-ROUTINE	Molybdenum		Dissolved	0.0039	mg/l	J	0.00002	0.005
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Molybdenum		Dissolved	0.0041	mg/l	J	0.00002	0.005
SS-15B	21-Mar-18	12:45	S-ROUTINE	Molybdenum		Dissolved	0.0032	mg/l	J	0.00002	0.005
SS-16B	21-Mar-18	10:45	S-ROUTINE	Molybdenum		Dissolved	0.0037	mg/l	J	0.00002	0.005
SS-17D	21-Mar-18	9:45	S-ROUTINE	Molybdenum		Dissolved	0.0036	mg/l	J	0.00002	0.005
SS-19	21-Mar-18	8:45	S-ROUTINE	Molybdenum		Dissolved	0.0037	mg/l	J	0.00002	0.005
SS-15B	21-Mar-18	12:00	QC-FB	Molybdenum		Total Recv	<0.00003	mg/l		0.00003	0.005
SS-14	21-Mar-18	16:15	QC-FD	Molybdenum		Total Recv	0.0043	mg/l	J	0.00003	0.005
SS-13	21-Mar-18	17:30	S-ROUTINE	Molybdenum		Total Recv	0.0046	mg/l	J	0.00003	0.005
SS-14	21-Mar-18	16:15	S-ROUTINE	Molybdenum		Total Recv	0.0048	mg/l	J	0.00003	0.005
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Molybdenum		Total Recv	0.0045	mg/l	J	0.00003	0.005
SS-15B	21-Mar-18	12:45	S-ROUTINE	Molybdenum		Total Recv	0.0035	mg/l	J	0.00003	0.005
SS-16B	21-Mar-18	10:45	S-ROUTINE	Molybdenum		Total Recv	0.0038	mg/l	J	0.00003	0.005
SS-17D	21-Mar-18	9:45	S-ROUTINE	Molybdenum		Total Recv	0.0037	mg/l	J	0.00003	0.005
SS-19	21-Mar-18	8:45	S-ROUTINE	Molybdenum		Total Recv	0.0037	mg/l	J	0.00003	0.005
SS-15B	21-Mar-18	12:00	QC-FB	Nickel		Dissolved	<0.00003	mg/l		0.00003	0.002
SS-14	21-Mar-18	16:15	QC-FD	Nickel		Dissolved	0.00096	mg/l	J	0.00003	0.002
SS-13	21-Mar-18	17:30	S-ROUTINE	Nickel		Dissolved	0.00098	mg/l	J	0.00003	0.002
SS-14	21-Mar-18	16:15	S-ROUTINE	Nickel		Dissolved	0.0011	mg/l	J	0.00003	0.002
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Nickel		Dissolved	0.0011	mg/l	J	0.00003	0.002
SS-15B	21-Mar-18	12:45	S-ROUTINE	Nickel		Dissolved	0.00084	mg/l	J	0.00003	0.002
SS-16B	21-Mar-18	10:45	S-ROUTINE	Nickel		Dissolved	0.00089	mg/l	J	0.00003	0.002
SS-17D	21-Mar-18	9:45	S-ROUTINE	Nickel		Dissolved	0.00086	mg/l	J	0.00003	0.002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-19	21-Mar-18	8:45	S-ROUTINE	Nickel		Dissolved	0.00089	mg/l	J	0.00003	0.002
SS-15B	21-Mar-18	12:00	QC-FB	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-14	21-Mar-18	16:15	QC-FD	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-13	21-Mar-18	17:30	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-14	21-Mar-18	16:15	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-15B	21-Mar-18	12:45	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-16B	21-Mar-18	10:45	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-17D	21-Mar-18	9:45	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-19	21-Mar-18	8:45	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-15B	21-Mar-18	12:00	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.007	mg/l		0.007	0.02
SS-14	21-Mar-18	16:15	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.84	mg/l		0.007	0.02
SS-13	21-Mar-18	17:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.82	mg/l		0.007	0.02
SS-14	21-Mar-18	16:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.87	mg/l		0.007	0.02
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.73	mg/l		0.007	0.02
SS-15B	21-Mar-18	12:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.59	mg/l		0.007	0.02
SS-16B	21-Mar-18	10:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.67	mg/l		0.007	0.02
SS-17D	21-Mar-18	9:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.72	mg/l		0.007	0.02
SS-19	21-Mar-18	8:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.77	mg/l		0.007	0.02
SS-13	21-Mar-18	17:30	F-MSR/OBS	pH		NA	7.67	None			
SS-14	21-Mar-18	16:15	F-MSR/OBS	pH		NA	7.74	None			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	pH		NA	7.91	None			
SS-15B	21-Mar-18	12:45	F-MSR/OBS	pH		NA	7.97	None			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	pH		NA	8.1	None			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	pH		NA	7.97	None			
SS-17D	21-Mar-18	9:45	F-MSR/OBS	pH		NA	7.95	None			
SS-19	21-Mar-18	8:45	F-MSR/OBS	pH		NA	7.9	None			
SS-15B	21-Mar-18	12:00	QC-FB	Potassium		Dissolved	<0.05	mg/l		0.05	1
SS-14	21-Mar-18	16:15	QC-FD	Potassium		Dissolved	7	mg/l		0.05	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Potassium		Dissolved	7	mg/l		0.05	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Potassium		Dissolved	7	mg/l		0.05	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Potassium		Dissolved	8	mg/l		0.05	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.05	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Potassium		Dissolved	7	mg/l		0.05	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Potassium		Dissolved	7	mg/l		0.05	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Potassium		Dissolved	7	mg/l		0.05	1
SS-15B	21-Mar-18	12:00	QC-FB	Potassium		Total Recv	<0.05	mg/l		0.05	1
SS-14	21-Mar-18	16:15	QC-FD	Potassium		Total Recv	7	mg/l		0.05	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Potassium		Total Recv	8	mg/l		0.05	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.05	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Potassium		Total Recv	8	mg/l		0.05	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.05	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.05	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.05	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.05	1
SS-15B	21-Mar-18	12:00	QC-FB	Selenium		Dissolved	<0.00003	mg/l		0.00003	0.001
SS-14	21-Mar-18	16:15	QC-FD	Selenium		Dissolved	0.00027	mg/l	J	0.00003	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Selenium		Dissolved	0.00035	mg/l	J	0.00003	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	21-Mar-18	16:15	S-ROUTINE	Selenium		Dissolved	0.00027	mg/l	J	0.00003	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Selenium		Dissolved	0.00023	mg/l	J	0.00003	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Selenium		Dissolved	0.0003	mg/l	J	0.00003	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Selenium		Dissolved	0.00024	mg/l	J	0.00003	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Selenium		Dissolved	0.00024	mg/l	J	0.00003	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Selenium		Dissolved	0.00022	mg/l	J	0.00003	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Selenium		Total Recv	<0.00002	mg/l		0.00002	0.001
SS-14	21-Mar-18	16:15	QC-FD	Selenium		Total Recv	0.00031	mg/l	J	0.00002	0.001
SS-13	21-Mar-18	17:30	S-ROUTINE	Selenium		Total Recv	0.00037	mg/l	J	0.00002	0.001
SS-14	21-Mar-18	16:15	S-ROUTINE	Selenium		Total Recv	0.00035	mg/l	J	0.00002	0.001
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Selenium		Total Recv	0.00029	mg/l	J	0.00002	0.001
SS-15B	21-Mar-18	12:45	S-ROUTINE	Selenium		Total Recv	0.00033	mg/l	J	0.00002	0.001
SS-16B	21-Mar-18	10:45	S-ROUTINE	Selenium		Total Recv	0.0003	mg/l	J	0.00002	0.001
SS-17D	21-Mar-18	9:45	S-ROUTINE	Selenium		Total Recv	0.00027	mg/l	J	0.00002	0.001
SS-19	21-Mar-18	8:45	S-ROUTINE	Selenium		Total Recv	0.0003	mg/l	J	0.00002	0.001
SS-15B	21-Mar-18	12:00	QC-FB	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-14	21-Mar-18	16:15	QC-FD	Silver		Dissolved	0.000012	mg/l	J	0.000008	0.0002
SS-13	21-Mar-18	17:30	S-ROUTINE	Silver		Dissolved	0.00001	mg/l	J	0.000008	0.0002
SS-14	21-Mar-18	16:15	S-ROUTINE	Silver		Dissolved	0.0000095	mg/l	J	0.000008	0.0002
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Silver		Dissolved	0.000012	mg/l	J	0.000008	0.0002
SS-15B	21-Mar-18	12:45	S-ROUTINE	Silver		Dissolved	0.000011	mg/l	J	0.000008	0.0002
SS-16B	21-Mar-18	10:45	S-ROUTINE	Silver		Dissolved	0.000015	mg/l	J	0.000008	0.0002
SS-17D	21-Mar-18	9:45	S-ROUTINE	Silver		Dissolved	0.000016	mg/l	J	0.000008	0.0002
SS-19	21-Mar-18	8:45	S-ROUTINE	Silver		Dissolved	0.000014	mg/l	J	0.000008	0.0002
SS-15B	21-Mar-18	12:00	QC-FB	Silver		Total Recv	0.000012	mg/l	J	0.000008	0.0002
SS-14	21-Mar-18	16:15	QC-FD	Silver		Total Recv	0.00006	mg/l	J	0.000008	0.0002
SS-13	21-Mar-18	17:30	S-ROUTINE	Silver		Total Recv	0.000067	mg/l	J	0.000008	0.0002
SS-14	21-Mar-18	16:15	S-ROUTINE	Silver		Total Recv	0.000057	mg/l	J	0.000008	0.0002
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Silver		Total Recv	0.000099	mg/l	J	0.000008	0.0002
SS-15B	21-Mar-18	12:45	S-ROUTINE	Silver		Total Recv	0.000071	mg/l	J	0.000008	0.0002
SS-16B	21-Mar-18	10:45	S-ROUTINE	Silver		Total Recv	0.000091	mg/l	J	0.000008	0.0002
SS-17D	21-Mar-18	9:45	S-ROUTINE	Silver		Total Recv	0.00011	mg/l	J	0.000008	0.0002
SS-19	21-Mar-18	8:45	S-ROUTINE	Silver		Total Recv	0.00011	mg/l	J	0.000008	0.0002
SS-15B	21-Mar-18	12:00	QC-FB	Sodium		Dissolved	<0.02	mg/l		0.02	1
SS-14	21-Mar-18	16:15	QC-FD	Sodium		Dissolved	29	mg/l		0.02	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Sodium		Dissolved	28	mg/l		0.02	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Sodium		Dissolved	28	mg/l		0.02	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Sodium		Dissolved	29	mg/l		0.02	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Sodium		Dissolved	24	mg/l		0.02	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Sodium		Dissolved	25	mg/l		0.02	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Sodium		Dissolved	25	mg/l		0.02	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Sodium		Dissolved	25	mg/l		0.02	1
SS-15B	21-Mar-18	12:00	QC-FB	Sodium		Total Recv	<0.02	mg/l		0.02	1
SS-14	21-Mar-18	16:15	QC-FD	Sodium		Total Recv	29	mg/l		0.02	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Sodium		Total Recv	29	mg/l		0.02	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Sodium		Total Recv	29	mg/l		0.02	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Sodium		Total Recv	29	mg/l		0.02	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Sodium		Total Recv	24	mg/l		0.02	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	21-Mar-18	10:45	S-ROUTINE	Sodium		Total Recv	25	mg/l		0.02	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Sodium		Total Recv	25	mg/l		0.02	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Sodium		Total Recv	25	mg/l		0.02	1
SS-13	21-Mar-18	17:30	F-MSR/OBS	Specific conductance		NA	502.9	uS/cm			
SS-14	21-Mar-18	16:15	F-MSR/OBS	Specific conductance		NA	537.9	uS/cm			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	Specific conductance		NA	535.2	uS/cm			
SS-15B	21-Mar-18	12:45	F-MSR/OBS	Specific conductance		NA	474.7	uS/cm			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	Specific conductance		NA	242.1	uS/cm			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	Specific conductance		NA	497.7	uS/cm			
SS-17D	21-Mar-18	9:45	F-MSR/OBS	Specific conductance		NA	459.5	uS/cm			
SS-19	21-Mar-18	8:45	F-MSR/OBS	Specific conductance		NA	467.9	uS/cm			
SS-15B	21-Mar-18	12:00	QC-FB	Sulfate		Total	<0.01	mg/l		0.01	1
SS-14	21-Mar-18	16:15	QC-FD	Sulfate		Total	82	mg/l		0.01	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Sulfate		Total	78	mg/l		0.01	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Sulfate		Total	82	mg/l		0.01	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Sulfate		Total	76	mg/l		0.01	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Sulfate		Total	66	mg/l		0.01	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Sulfate		Total	67	mg/l		0.01	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Sulfate		Total	68	mg/l		0.01	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Sulfate		Total	69	mg/l		0.01	1
SS-13	21-Mar-18	17:30	F-MSR/OBS	Temperature, water		NA	5.6	deg C			
SS-14	21-Mar-18	16:15	F-MSR/OBS	Temperature, water		NA	5.7	deg C			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	Temperature, water		NA	4.6	deg C			
SS-15B	21-Mar-18	12:45	F-MSR/OBS	Temperature, water		NA	2.9	deg C			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	Temperature, water		NA	0.4	deg C			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	Temperature, water		NA	1.6	deg C			
SS-17D	21-Mar-18	9:45	F-MSR/OBS	Temperature, water		NA	1.6	deg C			
SS-19	21-Mar-18	8:45	F-MSR/OBS	Temperature, water		NA	1.5	deg C			
SS-15B	21-Mar-18	12:00	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.01	mg/l		0.01	0.05
SS-14	21-Mar-18	16:15	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	2.11	mg/l	D	0.02	0.06
SS-13	21-Mar-18	17:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.09	mg/l	D	0.02	0.06
SS-14	21-Mar-18	16:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.2	mg/l	D	0.02	0.06
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.51	mg/l	D	0.02	0.06
SS-15B	21-Mar-18	12:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.08	mg/l	D	0.02	0.06
SS-16B	21-Mar-18	10:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.18	mg/l	D	0.02	0.06
SS-17D	21-Mar-18	9:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.93	mg/l	D	0.02	0.06
SS-19	21-Mar-18	8:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.92	mg/l	D	0.02	0.06
SS-15B	21-Mar-18	12:00	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	<0.0006	mg/l		0.0006	0.003
SS-14	21-Mar-18	16:15	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.218	mg/l		0.0006	0.003
SS-13	21-Mar-18	17:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.228	mg/l		0.0006	0.003
SS-14	21-Mar-18	16:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.212	mg/l		0.0006	0.003
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.249	mg/l		0.0006	0.003
SS-15B	21-Mar-18	12:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.216	mg/l		0.0006	0.003
SS-16B	21-Mar-18	10:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.267	mg/l		0.0006	0.003
SS-17D	21-Mar-18	9:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.287	mg/l		0.0006	0.003
SS-19	21-Mar-18	8:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.28	mg/l		0.0006	0.003
SS-15B	21-Mar-18	12:00	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-14	21-Mar-18	16:15	QC-FD	Total suspended solids		NA	14	mg/l	D	0.3	2

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	21-Mar-18	17:30	S-ROUTINE	Total suspended solids		NA	13	mg/l	D	0.3	2
SS-14	21-Mar-18	16:15	S-ROUTINE	Total suspended solids		NA	15	mg/l		0.3	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Total suspended solids		NA	18	mg/l	D	0.3	2
SS-15B	21-Mar-18	12:45	S-ROUTINE	Total suspended solids		NA	19	mg/l	D	0.3	2
SS-16B	21-Mar-18	10:45	S-ROUTINE	Total suspended solids		NA	24	mg/l		0.3	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Total suspended solids		NA	37	mg/l	D	0.3	2
SS-19	21-Mar-18	8:45	S-ROUTINE	Total suspended solids		NA	39	mg/l	D	0.3	2
SS-13	21-Mar-18	17:30	F-MSR/OBS	Turbidity		NA	9.26	NTU			
SS-14	21-Mar-18	16:15	F-MSR/OBS	Turbidity		NA	9.99	NTU			
SS-15A-2	21-Mar-18	14:00	F-MSR/OBS	Turbidity		NA	12.3	NTU			
SS-15B	21-Mar-18	12:45	F-MSR/OBS	Turbidity		NA	11.9	NTU			
SS-15G	21-Mar-18	13:15	F-MSR/OBS	Turbidity		NA	4.59	NTU			
SS-16B	21-Mar-18	10:45	F-MSR/OBS	Turbidity		NA	15.8	NTU			
SS-17D	21-Mar-18	9:45	F-MSR/OBS	Turbidity		NA	22.8	NTU			
SS-19	21-Mar-18	8:45	F-MSR/OBS	Turbidity		NA	23.3	NTU			
SS-15B	21-Mar-18	12:00	QC-FB	Uranium-238		Dissolved	<0.000003	mg/l		0.000003	0.0002
SS-14	21-Mar-18	16:15	QC-FD	Uranium-238		Dissolved	0.0046	mg/l		0.000003	0.0002
SS-13	21-Mar-18	17:30	S-ROUTINE	Uranium-238		Dissolved	0.0047	mg/l		0.000003	0.0002
SS-14	21-Mar-18	16:15	S-ROUTINE	Uranium-238		Dissolved	0.0043	mg/l		0.000003	0.0002
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Uranium-238		Dissolved	0.0042	mg/l		0.000003	0.0002
SS-15B	21-Mar-18	12:45	S-ROUTINE	Uranium-238		Dissolved	0.0034	mg/l		0.000003	0.0002
SS-16B	21-Mar-18	10:45	S-ROUTINE	Uranium-238		Dissolved	0.0036	mg/l		0.000003	0.0002
SS-17D	21-Mar-18	9:45	S-ROUTINE	Uranium-238		Dissolved	0.0034	mg/l		0.000003	0.0002
SS-19	21-Mar-18	8:45	S-ROUTINE	Uranium-238		Dissolved	0.0028	mg/l		0.000003	0.0002
SS-15B	21-Mar-18	12:00	QC-FB	Uranium-238		Total Recv	<0.000008	mg/l		0.000008	0.0002
SS-14	21-Mar-18	16:15	QC-FD	Uranium-238		Total Recv	0.0048	mg/l		0.000008	0.0002
SS-13	21-Mar-18	17:30	S-ROUTINE	Uranium-238		Total Recv	0.005	mg/l		0.000008	0.0002
SS-14	21-Mar-18	16:15	S-ROUTINE	Uranium-238		Total Recv	0.0051	mg/l		0.000008	0.0002
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Uranium-238		Total Recv	0.0044	mg/l		0.000008	0.0002
SS-15B	21-Mar-18	12:45	S-ROUTINE	Uranium-238		Total Recv	0.0036	mg/l		0.000008	0.0002
SS-16B	21-Mar-18	10:45	S-ROUTINE	Uranium-238		Total Recv	0.0036	mg/l		0.000008	0.0002
SS-17D	21-Mar-18	9:45	S-ROUTINE	Uranium-238		Total Recv	0.0035	mg/l		0.000008	0.0002
SS-19	21-Mar-18	8:45	S-ROUTINE	Uranium-238		Total Recv	0.0028	mg/l		0.000008	0.0002
SS-15B	21-Mar-18	12:00	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-14	21-Mar-18	16:15	QC-FD	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Vanadium		Dissolved	0.0019	mg/l	J	0.00007	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Vanadium		Dissolved	0.0015	mg/l	J	0.00007	0.1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Vanadium		Dissolved	0.0016	mg/l	J	0.00007	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-15B	21-Mar-18	12:00	QC-FB	Vanadium		Total Recv	<0.00003	mg/l		0.00003	0.1
SS-14	21-Mar-18	16:15	QC-FD	Vanadium		Total Recv	0.0025	mg/l	J	0.00003	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Vanadium		Total Recv	0.0027	mg/l	J	0.00003	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Vanadium		Total Recv	0.0028	mg/l	J	0.00003	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Vanadium		Total Recv	0.0028	mg/l	J	0.00003	0.1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Vanadium		Total Recv	0.0024	mg/l	J	0.00003	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	21-Mar-18	10:45	S-ROUTINE	Vanadium		Total Recv	0.0029	mg/l	J	0.00003	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Vanadium		Total Recv	0.0035	mg/l	J	0.00003	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Vanadium		Total Recv	0.004	mg/l	J	0.00003	0.1
SS-15B	21-Mar-18	12:00	QC-FB	Zinc		Dissolved	0.03	mg/l		0.0001	0.008
SS-14	21-Mar-18	16:15	QC-FD	Zinc		Dissolved	0.129	mg/l		0.0001	0.008
SS-13	21-Mar-18	17:30	S-ROUTINE	Zinc		Dissolved	0.135	mg/l	B	0.0001	0.008
SS-14	21-Mar-18	16:15	S-ROUTINE	Zinc		Dissolved	0.125	mg/l	B	0.0001	0.008
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Zinc		Dissolved	0.133	mg/l	B	0.0001	0.008
SS-15B	21-Mar-18	12:45	S-ROUTINE	Zinc		Dissolved	0.102	mg/l	B	0.0001	0.008
SS-16B	21-Mar-18	10:45	S-ROUTINE	Zinc		Dissolved	0.109	mg/l	B	0.0001	0.008
SS-17D	21-Mar-18	9:45	S-ROUTINE	Zinc		Dissolved	0.113	mg/l	B	0.0001	0.008
SS-19	21-Mar-18	8:45	S-ROUTINE	Zinc		Dissolved	0.108	mg/l	B	0.0001	0.008
SS-15B	21-Mar-18	12:00	QC-FB	Zinc		Total Recv	0.002	mg/l	J	0.002	0.008
SS-14	21-Mar-18	16:15	QC-FD	Zinc		Total Recv	0.154	mg/l		0.002	0.008
SS-13	21-Mar-18	17:30	S-ROUTINE	Zinc		Total Recv	0.158	mg/l		0.002	0.008
SS-14	21-Mar-18	16:15	S-ROUTINE	Zinc		Total Recv	0.168	mg/l		0.002	0.008
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Zinc		Total Recv	0.172	mg/l		0.002	0.008
SS-15B	21-Mar-18	12:45	S-ROUTINE	Zinc		Total Recv	0.134	mg/l		0.002	0.008
SS-16B	21-Mar-18	10:45	S-ROUTINE	Zinc		Total Recv	0.146	mg/l		0.002	0.008
SS-17D	21-Mar-18	9:45	S-ROUTINE	Zinc		Total Recv	0.168	mg/l		0.002	0.008
SS-19	21-Mar-18	8:45	S-ROUTINE	Zinc		Total Recv	0.176	mg/l		0.002	0.008
SS-06G	22-Mar-18	14:30	QC-FB	Alkalinity, total	as CaCO3	Total	2	mg/l	J	0.7	4
SS-08	22-Mar-18	12:45	QC-FD	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-01	22-Mar-18	16:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	55	mg/l		0.7	4
SS-05A	22-Mar-18	15:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	93	mg/l		0.7	4
SS-06G	22-Mar-18	14:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	91	mg/l		0.7	4
SS-07	22-Mar-18	14:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-08	22-Mar-18	12:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		0.7	4
SS-10A	22-Mar-18	11:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	98	mg/l		0.7	4
SS-11C	22-Mar-18	9:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	79	mg/l		0.7	4
SS-11D	22-Mar-18	8:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	81	mg/l		0.7	4
SS-15G	22-Mar-18	13:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	93	mg/l		0.7	4
SS-06G	22-Mar-18	14:30	QC-FB	Aluminum		Dissolved	<0.0007	mg/l		0.0007	0.009
SS-08	22-Mar-18	12:45	QC-FD	Aluminum		Dissolved	0.0044	mg/l	J	0.0007	0.009
SS-01	22-Mar-18	16:45	S-ROUTINE	Aluminum		Dissolved	0.015	mg/l		0.0007	0.009
SS-05A	22-Mar-18	15:30	S-ROUTINE	Aluminum		Dissolved	0.0029	mg/l	J	0.0007	0.009
SS-06G	22-Mar-18	14:45	S-ROUTINE	Aluminum		Dissolved	0.0029	mg/l	J	0.0007	0.009
SS-07	22-Mar-18	14:00	S-ROUTINE	Aluminum		Dissolved	0.0076	mg/l	J	0.0007	0.009
SS-08	22-Mar-18	12:45	S-ROUTINE	Aluminum		Dissolved	0.0049	mg/l	J	0.0007	0.009
SS-10A	22-Mar-18	11:30	S-ROUTINE	Aluminum		Dissolved	0.011	mg/l		0.0007	0.009
SS-11C	22-Mar-18	9:00	S-ROUTINE	Aluminum		Dissolved	0.02	mg/l		0.0007	0.009
SS-11D	22-Mar-18	8:30	S-ROUTINE	Aluminum		Dissolved	0.021	mg/l		0.0007	0.009
SS-15G	22-Mar-18	13:15	S-ROUTINE	Aluminum		Dissolved	0.0017	mg/l	J	0.0007	0.009
SS-06G	22-Mar-18	14:30	QC-FB	Aluminum		Total Recv	0.009	mg/l	J	0.003	0.009
SS-08	22-Mar-18	12:45	QC-FD	Aluminum		Total Recv	0.198	mg/l		0.003	0.009
SS-01	22-Mar-18	16:45	S-ROUTINE	Aluminum		Total Recv	2.91	mg/l		0.003	0.009
SS-05A	22-Mar-18	15:30	S-ROUTINE	Aluminum		Total Recv	0.53	mg/l		0.003	0.009
SS-06G	22-Mar-18	14:45	S-ROUTINE	Aluminum		Total Recv	0.121	mg/l		0.003	0.009

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	22-Mar-18	14:00	S-ROUTINE	Aluminum		Total Recv	0.087	mg/l		0.003	0.009
SS-08	22-Mar-18	12:45	S-ROUTINE	Aluminum		Total Recv	0.17	mg/l		0.003	0.009
SS-10A	22-Mar-18	11:30	S-ROUTINE	Aluminum		Total Recv	0.283	mg/l		0.003	0.009
SS-11C	22-Mar-18	9:00	S-ROUTINE	Aluminum		Total Recv	0.683	mg/l		0.003	0.009
SS-11D	22-Mar-18	8:30	S-ROUTINE	Aluminum		Total Recv	0.736	mg/l		0.003	0.009
SS-15G	22-Mar-18	13:15	S-ROUTINE	Aluminum		Total Recv	0.211	mg/l		0.003	0.009
SS-06G	22-Mar-18	14:30	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-08	22-Mar-18	12:45	QC-FD	Ammonia	as N	Unfiltered	1.12	mg/l		0.02	0.05
SS-01	22-Mar-18	16:45	S-ROUTINE	Ammonia	as N	Unfiltered	0.15	mg/l		0.02	0.05
SS-05A	22-Mar-18	15:30	S-ROUTINE	Ammonia	as N	Unfiltered	0.03	mg/l	J	0.02	0.05
SS-06G	22-Mar-18	14:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-07	22-Mar-18	14:00	S-ROUTINE	Ammonia	as N	Unfiltered	1.68	mg/l		0.02	0.05
SS-08	22-Mar-18	12:45	S-ROUTINE	Ammonia	as N	Unfiltered	1.11	mg/l		0.02	0.05
SS-10A	22-Mar-18	11:30	S-ROUTINE	Ammonia	as N	Unfiltered	0.63	mg/l		0.02	0.05
SS-11C	22-Mar-18	9:00	S-ROUTINE	Ammonia	as N	Unfiltered	0.63	mg/l		0.02	0.05
SS-11D	22-Mar-18	8:30	S-ROUTINE	Ammonia	as N	Unfiltered	0.68	mg/l		0.02	0.05
SS-15G	22-Mar-18	13:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-06G	22-Mar-18	14:30	QC-FB	Antimony		Dissolved	<0.00002	mg/l		0.00002	0.0005
SS-08	22-Mar-18	12:45	QC-FD	Antimony		Dissolved	0.00016	mg/l	J	0.00002	0.0005
SS-01	22-Mar-18	16:45	S-ROUTINE	Antimony		Dissolved	0.00026	mg/l	J	0.00002	0.0005
SS-05A	22-Mar-18	15:30	S-ROUTINE	Antimony		Dissolved	0.00026	mg/l	J	0.00002	0.0005
SS-06G	22-Mar-18	14:45	S-ROUTINE	Antimony		Dissolved	0.00009	mg/l	J	0.00002	0.0005
SS-07	22-Mar-18	14:00	S-ROUTINE	Antimony		Dissolved	0.00017	mg/l	J	0.00002	0.0005
SS-08	22-Mar-18	12:45	S-ROUTINE	Antimony		Dissolved	0.00018	mg/l	J	0.00002	0.0005
SS-10A	22-Mar-18	11:30	S-ROUTINE	Antimony		Dissolved	0.0002	mg/l	J	0.00002	0.0005
SS-11C	22-Mar-18	9:00	S-ROUTINE	Antimony		Dissolved	0.00036	mg/l	J	0.00002	0.0005
SS-11D	22-Mar-18	8:30	S-ROUTINE	Antimony		Dissolved	0.00033	mg/l	J	0.00002	0.0005
SS-15G	22-Mar-18	13:15	S-ROUTINE	Antimony		Dissolved	0.00006	mg/l	J	0.00002	0.0005
SS-06G	22-Mar-18	14:30	QC-FB	Antimony		Total Recv	0.00004	mg/l	J	0.00002	0.0005
SS-08	22-Mar-18	12:45	QC-FD	Antimony		Total Recv	0.0004	mg/l	J	0.00002	0.0005
SS-01	22-Mar-18	16:45	S-ROUTINE	Antimony		Total Recv	0.0007	mg/l		0.00002	0.0005
SS-05A	22-Mar-18	15:30	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.00002	0.0005
SS-06G	22-Mar-18	14:45	S-ROUTINE	Antimony		Total Recv	0.00032	mg/l	J	0.00002	0.0005
SS-07	22-Mar-18	14:00	S-ROUTINE	Antimony		Total Recv	0.00037	mg/l	J	0.00002	0.0005
SS-08	22-Mar-18	12:45	S-ROUTINE	Antimony		Total Recv	0.00041	mg/l	J	0.00002	0.0005
SS-10A	22-Mar-18	11:30	S-ROUTINE	Antimony		Total Recv	0.00044	mg/l	J	0.00002	0.0005
SS-11C	22-Mar-18	9:00	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l		0.00002	0.0005
SS-11D	22-Mar-18	8:30	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l		0.00002	0.0005
SS-15G	22-Mar-18	13:15	S-ROUTINE	Antimony		Total Recv	0.0002	mg/l	J	0.00002	0.0005
SS-06G	22-Mar-18	14:30	QC-FB	Arsenic		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-08	22-Mar-18	12:45	QC-FD	Arsenic		Dissolved	0.004	mg/l		0.00002	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00002	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00002	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00002	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00002	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00002	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Arsenic		Dissolved	0.007	mg/l		0.00002	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Arsenic		Dissolved	0.013	mg/l		0.00002	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	22-Mar-18	8:30	S-ROUTINE	Arsenic		Dissolved	0.014	mg/l		0.00002	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00002	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Arsenic		Total Recv	<0.00002	mg/l		0.00002	0.001
SS-08	22-Mar-18	12:45	QC-FD	Arsenic		Total Recv	0.005	mg/l		0.00002	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Arsenic		Total Recv	0.013	mg/l		0.00002	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Arsenic		Total Recv	0.009	mg/l		0.00002	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00002	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00002	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00002	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Arsenic		Total Recv	0.008	mg/l		0.00002	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Arsenic		Total Recv	0.014	mg/l		0.00002	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Arsenic		Total Recv	0.015	mg/l		0.00002	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Arsenic		Total Recv	0.003	mg/l		0.00002	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Barium		Dissolved	0.004	mg/l		0.00002	0.003
SS-08	22-Mar-18	12:45	QC-FD	Barium		Dissolved	0.041	mg/l		0.00002	0.003
SS-01	22-Mar-18	16:45	S-ROUTINE	Barium		Dissolved	0.03	mg/l	B	0.00002	0.003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Barium		Dissolved	0.045	mg/l	B	0.00002	0.003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Barium		Dissolved	0.044	mg/l	B	0.00002	0.003
SS-07	22-Mar-18	14:00	S-ROUTINE	Barium		Dissolved	0.039	mg/l	B	0.00002	0.003
SS-08	22-Mar-18	12:45	S-ROUTINE	Barium		Dissolved	0.041	mg/l	B	0.00002	0.003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Barium		Dissolved	0.04	mg/l	B	0.00002	0.003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Barium		Dissolved	0.038	mg/l	B	0.00002	0.003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Barium		Dissolved	0.038	mg/l	B	0.00002	0.003
SS-15G	22-Mar-18	13:15	S-ROUTINE	Barium		Dissolved	0.023	mg/l	B	0.00002	0.003
SS-06G	22-Mar-18	14:30	QC-FB	Barium		Total Recv	<0.00006	mg/l		0.00006	0.003
SS-08	22-Mar-18	12:45	QC-FD	Barium		Total Recv	0.042	mg/l		0.00006	0.003
SS-01	22-Mar-18	16:45	S-ROUTINE	Barium		Total Recv	0.069	mg/l		0.00006	0.003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Barium		Total Recv	0.053	mg/l		0.00006	0.003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Barium		Total Recv	0.044	mg/l		0.00006	0.003
SS-07	22-Mar-18	14:00	S-ROUTINE	Barium		Total Recv	0.039	mg/l		0.00006	0.003
SS-08	22-Mar-18	12:45	S-ROUTINE	Barium		Total Recv	0.042	mg/l		0.00006	0.003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Barium		Total Recv	0.043	mg/l		0.00006	0.003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Barium		Total Recv	0.042	mg/l		0.00006	0.003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Barium		Total Recv	0.046	mg/l		0.00006	0.003
SS-15G	22-Mar-18	13:15	S-ROUTINE	Barium		Total Recv	0.024	mg/l		0.00006	0.003
SS-06G	22-Mar-18	14:30	QC-FB	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-08	22-Mar-18	12:45	QC-FD	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-01	22-Mar-18	16:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-05A	22-Mar-18	15:30	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-06G	22-Mar-18	14:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-07	22-Mar-18	14:00	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-08	22-Mar-18	12:45	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-10A	22-Mar-18	11:30	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-11C	22-Mar-18	9:00	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-11D	22-Mar-18	8:30	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-15G	22-Mar-18	13:15	S-ROUTINE	Beryllium		Dissolved	<0.00008	mg/l		0.00008	0.0008
SS-06G	22-Mar-18	14:30	QC-FB	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-08	22-Mar-18	12:45	QC-FD	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	22-Mar-18	16:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-05A	22-Mar-18	15:30	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-06G	22-Mar-18	14:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-07	22-Mar-18	14:00	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-08	22-Mar-18	12:45	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-10A	22-Mar-18	11:30	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-11C	22-Mar-18	9:00	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-11D	22-Mar-18	8:30	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-15G	22-Mar-18	13:15	S-ROUTINE	Beryllium		Total Recv	<0.0003	mg/l		0.0003	0.0008
SS-06G	22-Mar-18	14:30	QC-FB	Bicarbonate	as HCO3	Total	2	mg/l	J	0.7	4
SS-08	22-Mar-18	12:45	QC-FD	Bicarbonate	as HCO3	Total	130	mg/l		0.7	4
SS-01	22-Mar-18	16:45	S-ROUTINE	Bicarbonate	as HCO3	Total	66	mg/l		0.7	4
SS-05A	22-Mar-18	15:30	S-ROUTINE	Bicarbonate	as HCO3	Total	110	mg/l		0.7	4
SS-06G	22-Mar-18	14:45	S-ROUTINE	Bicarbonate	as HCO3	Total	110	mg/l		0.7	4
SS-07	22-Mar-18	14:00	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		0.7	4
SS-08	22-Mar-18	12:45	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		0.7	4
SS-10A	22-Mar-18	11:30	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		0.7	4
SS-11C	22-Mar-18	9:00	S-ROUTINE	Bicarbonate	as HCO3	Total	96	mg/l		0.7	4
SS-11D	22-Mar-18	8:30	S-ROUTINE	Bicarbonate	as HCO3	Total	98	mg/l		0.7	4
SS-15G	22-Mar-18	13:15	S-ROUTINE	Bicarbonate	as HCO3	Total	110	mg/l		0.7	4
SS-06G	22-Mar-18	14:30	QC-FB	Boron		Dissolved	<0.003	mg/l		0.003	0.1
SS-08	22-Mar-18	12:45	QC-FD	Boron		Dissolved	0.076	mg/l	J	0.003	0.1
SS-01	22-Mar-18	16:45	S-ROUTINE	Boron		Dissolved	0.022	mg/l	J	0.003	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Boron		Dissolved	0.037	mg/l	J	0.003	0.1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Boron		Dissolved	0.063	mg/l	J	0.003	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Boron		Dissolved	0.076	mg/l	J	0.003	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Boron		Dissolved	0.078	mg/l	J	0.003	0.1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Boron		Dissolved	0.064	mg/l	J	0.003	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Boron		Dissolved	0.048	mg/l	J	0.003	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Boron		Dissolved	0.043	mg/l	J	0.003	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Boron		Dissolved	0.005	mg/l	J	0.003	0.1
SS-06G	22-Mar-18	14:30	QC-FB	Boron		Total Recv	<0.002	mg/l		0.002	0.1
SS-08	22-Mar-18	12:45	QC-FD	Boron		Total Recv	0.073	mg/l	J	0.002	0.1
SS-01	22-Mar-18	16:45	S-ROUTINE	Boron		Total Recv	0.02	mg/l	J	0.002	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Boron		Total Recv	0.037	mg/l	J	0.002	0.1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Boron		Total Recv	0.061	mg/l	J	0.002	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Boron		Total Recv	0.071	mg/l	J	0.002	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Boron		Total Recv	0.073	mg/l	J	0.002	0.1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Boron		Total Recv	0.064	mg/l	J	0.002	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Boron		Total Recv	0.044	mg/l	J	0.002	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Boron		Total Recv	0.046	mg/l	J	0.002	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Boron		Total Recv	<0.002	mg/l		0.002	0.1
SS-06G	22-Mar-18	14:30	QC-FB	Cadmium		Dissolved	<0.00002	mg/l		0.00002	0.00003
SS-08	22-Mar-18	12:45	QC-FD	Cadmium		Dissolved	0.00018	mg/l		0.00002	0.00003
SS-01	22-Mar-18	16:45	S-ROUTINE	Cadmium		Dissolved	0.00002	mg/l	J	0.00002	0.00003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cadmium		Dissolved	0.00007	mg/l		0.00002	0.00003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cadmium		Dissolved	0.00008	mg/l		0.00002	0.00003
SS-07	22-Mar-18	14:00	S-ROUTINE	Cadmium		Dissolved	0.00009	mg/l		0.00002	0.00003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	22-Mar-18	12:45	S-ROUTINE	Cadmium		Dissolved	0.00019	mg/l		0.00002	0.00003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cadmium		Dissolved	0.00039	mg/l		0.00002	0.00003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cadmium		Dissolved	0.0002	mg/l		0.00002	0.00003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cadmium		Dissolved	0.00019	mg/l		0.00002	0.00003
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cadmium		Dissolved	<0.00002	mg/l		0.00002	0.00003
SS-06G	22-Mar-18	14:30	QC-FB	Cadmium		Total Recv	<0.00002	mg/l		0.00002	0.00003
SS-08	22-Mar-18	12:45	QC-FD	Cadmium		Total Recv	0.00025	mg/l		0.00002	0.00003
SS-01	22-Mar-18	16:45	S-ROUTINE	Cadmium		Total Recv	0.00023	mg/l		0.00002	0.00003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cadmium		Total Recv	0.00021	mg/l		0.00002	0.00003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cadmium		Total Recv	0.00014	mg/l		0.00002	0.00003
SS-07	22-Mar-18	14:00	S-ROUTINE	Cadmium		Total Recv	0.00011	mg/l		0.00002	0.00003
SS-08	22-Mar-18	12:45	S-ROUTINE	Cadmium		Total Recv	0.00024	mg/l		0.00002	0.00003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cadmium		Total Recv	0.00051	mg/l		0.00002	0.00003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cadmium		Total Recv	0.00045	mg/l		0.00002	0.00003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cadmium		Total Recv	0.00044	mg/l		0.00002	0.00003
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cadmium		Total Recv	<0.00002	mg/l		0.00002	0.00003
SS-06G	22-Mar-18	14:30	QC-FB	Calcium		Dissolved	0.3	mg/l	J	0.01	1
SS-08	22-Mar-18	12:45	QC-FD	Calcium		Dissolved	48	mg/l		0.01	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Calcium		Dissolved	18	mg/l		0.01	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Calcium		Dissolved	34	mg/l		0.01	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Calcium		Dissolved	49	mg/l		0.01	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Calcium		Dissolved	47	mg/l		0.01	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Calcium		Dissolved	48	mg/l		0.01	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Calcium		Dissolved	45	mg/l		0.01	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Calcium		Dissolved	40	mg/l		0.01	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Calcium		Dissolved	38	mg/l		0.01	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Calcium		Dissolved	33	mg/l		0.01	1
SS-06G	22-Mar-18	14:30	QC-FB	Calcium		Total Recv	0.62	mg/l	J	0.01	1
SS-08	22-Mar-18	12:45	QC-FD	Calcium		Total Recv	50	mg/l		0.01	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Calcium		Total Recv	20	mg/l		0.01	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Calcium		Total Recv	35	mg/l		0.01	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Calcium		Total Recv	51	mg/l		0.01	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Calcium		Total Recv	47	mg/l		0.01	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Calcium		Total Recv	49	mg/l		0.01	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Calcium		Total Recv	47	mg/l		0.01	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Calcium		Total Recv	40	mg/l		0.01	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Calcium		Total Recv	39	mg/l		0.01	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Calcium		Total Recv	34	mg/l		0.01	1
SS-06G	22-Mar-18	14:30	QC-FB	Chloride		Total	0.012	mg/l	J	0.003	1
SS-08	22-Mar-18	12:45	QC-FD	Chloride		Total	46	mg/l		0.003	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Chloride		Total	14	mg/l		0.003	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Chloride		Total	27	mg/l		0.003	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Chloride		Total	44	mg/l		0.003	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Chloride		Total	46	mg/l		0.003	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Chloride		Total	46	mg/l		0.003	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Chloride		Total	39	mg/l		0.003	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Chloride		Total	39	mg/l		0.003	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Chloride		Total	36	mg/l		0.003	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	22-Mar-18	13:15	S-ROUTINE	Chloride		Total	0.88	mg/l	J	0.003	1
SS-06G	22-Mar-18	14:30	QC-FB	Chromium		Dissolved	<0.00003	mg/l		0.00003	0.01
SS-08	22-Mar-18	12:45	QC-FD	Chromium		Dissolved	0.00011	mg/l	J	0.00003	0.01
SS-01	22-Mar-18	16:45	S-ROUTINE	Chromium		Dissolved	0.00011	mg/l	J	0.00003	0.01
SS-05A	22-Mar-18	15:30	S-ROUTINE	Chromium		Dissolved	0.00014	mg/l	J	0.00003	0.01
SS-06G	22-Mar-18	14:45	S-ROUTINE	Chromium		Dissolved	0.00015	mg/l	J	0.00003	0.01
SS-07	22-Mar-18	14:00	S-ROUTINE	Chromium		Dissolved	0.00014	mg/l	J	0.00003	0.01
SS-08	22-Mar-18	12:45	S-ROUTINE	Chromium		Dissolved	0.00012	mg/l	J	0.00003	0.01
SS-10A	22-Mar-18	11:30	S-ROUTINE	Chromium		Dissolved	0.00009	mg/l	J	0.00003	0.01
SS-11C	22-Mar-18	9:00	S-ROUTINE	Chromium		Dissolved	0.00011	mg/l	J	0.00003	0.01
SS-11D	22-Mar-18	8:30	S-ROUTINE	Chromium		Dissolved	0.00011	mg/l	J	0.00003	0.01
SS-15G	22-Mar-18	13:15	S-ROUTINE	Chromium		Dissolved	0.00006	mg/l	J	0.00003	0.01
SS-06G	22-Mar-18	14:30	QC-FB	Chromium		Total Recv	<0.0002	mg/l		0.0002	0.01
SS-08	22-Mar-18	12:45	QC-FD	Chromium		Total Recv	0.0004	mg/l	J	0.0002	0.01
SS-01	22-Mar-18	16:45	S-ROUTINE	Chromium		Total Recv	0.0035	mg/l	J	0.0002	0.01
SS-05A	22-Mar-18	15:30	S-ROUTINE	Chromium		Total Recv	0.0008	mg/l	J	0.0002	0.01
SS-06G	22-Mar-18	14:45	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0002	0.01
SS-07	22-Mar-18	14:00	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0002	0.01
SS-08	22-Mar-18	12:45	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0002	0.01
SS-10A	22-Mar-18	11:30	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0002	0.01
SS-11C	22-Mar-18	9:00	S-ROUTINE	Chromium		Total Recv	0.0007	mg/l	J	0.0002	0.01
SS-11D	22-Mar-18	8:30	S-ROUTINE	Chromium		Total Recv	0.0007	mg/l	J	0.0002	0.01
SS-15G	22-Mar-18	13:15	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0002	0.01
SS-06G	22-Mar-18	14:30	QC-FB	Cobalt		Dissolved	<0.00002	mg/l		0.00002	0.01
SS-08	22-Mar-18	12:45	QC-FD	Cobalt		Dissolved	0.00028	mg/l	J	0.00002	0.01
SS-01	22-Mar-18	16:45	S-ROUTINE	Cobalt		Dissolved	0.00014	mg/l	J	0.00002	0.01
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cobalt		Dissolved	0.0001	mg/l	J	0.00002	0.01
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cobalt		Dissolved	0.0003	mg/l	J	0.00002	0.01
SS-07	22-Mar-18	14:00	S-ROUTINE	Cobalt		Dissolved	0.00028	mg/l	J	0.00002	0.01
SS-08	22-Mar-18	12:45	S-ROUTINE	Cobalt		Dissolved	0.00027	mg/l	J	0.00002	0.01
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cobalt		Dissolved	0.00026	mg/l	J	0.00002	0.01
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cobalt		Dissolved	0.00022	mg/l	J	0.00002	0.01
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cobalt		Dissolved	0.00022	mg/l	J	0.00002	0.01
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cobalt		Dissolved	0.0012	mg/l	J	0.00002	0.01
SS-06G	22-Mar-18	14:30	QC-FB	Cobalt		Total Recv	<0.00002	mg/l		0.00002	0.01
SS-08	22-Mar-18	12:45	QC-FD	Cobalt		Total Recv	0.0004	mg/l	J	0.00002	0.01
SS-01	22-Mar-18	16:45	S-ROUTINE	Cobalt		Total Recv	0.0014	mg/l	J	0.00002	0.01
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cobalt		Total Recv	0.00032	mg/l	J	0.00002	0.01
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cobalt		Total Recv	0.00036	mg/l	J	0.00002	0.01
SS-07	22-Mar-18	14:00	S-ROUTINE	Cobalt		Total Recv	0.00034	mg/l	J	0.00002	0.01
SS-08	22-Mar-18	12:45	S-ROUTINE	Cobalt		Total Recv	0.0004	mg/l	J	0.00002	0.01
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cobalt		Total Recv	0.00039	mg/l	J	0.00002	0.01
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cobalt		Total Recv	0.00044	mg/l	J	0.00002	0.01
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cobalt		Total Recv	0.00045	mg/l	J	0.00002	0.01
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cobalt		Total Recv	0.0013	mg/l	J	0.00002	0.01
SS-06G	22-Mar-18	14:30	QC-FB	Copper		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-08	22-Mar-18	12:45	QC-FD	Copper		Dissolved	0.009	mg/l		0.00004	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Copper		Dissolved	0.009	mg/l		0.00004	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	22-Mar-18	15:30	S-ROUTINE	Copper		Dissolved	0.006	mg/l		0.00004	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Copper		Dissolved	0.008	mg/l		0.00004	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Copper		Dissolved	0.007	mg/l		0.00004	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Copper		Dissolved	0.009	mg/l		0.00004	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Copper		Dissolved	0.023	mg/l		0.00004	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Copper		Dissolved	0.018	mg/l		0.00004	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Copper		Dissolved	0.017	mg/l		0.00004	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Copper		Dissolved	0.00049	mg/l	J	0.00004	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Copper		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-08	22-Mar-18	12:45	QC-FD	Copper		Total Recv	0.016	mg/l		0.0003	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Copper		Total Recv	0.038	mg/l		0.0003	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Copper		Total Recv	0.018	mg/l		0.0003	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Copper		Total Recv	0.013	mg/l		0.0003	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Copper		Total Recv	0.011	mg/l		0.0003	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0003	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Copper		Total Recv	0.035	mg/l		0.0003	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Copper		Total Recv	0.029	mg/l		0.0003	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Copper		Total Recv	0.027	mg/l		0.0003	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Copper		Total Recv	0.001	mg/l		0.0003	0.001
SS-01	22-Mar-18	16:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.1	mg/l			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	12.3	mg/l			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.8	mg/l			
SS-07	22-Mar-18	14:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.4	mg/l			
SS-08	22-Mar-18	12:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.9	mg/l			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	10	mg/l			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.5	mg/l			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.1	mg/l			
SS-01	22-Mar-18	16:45	F-MSR/OBS	Dissolved oxygen saturation		NA	95	%			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	Dissolved oxygen saturation		NA	124	%			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	Dissolved oxygen saturation		NA	117	%			
SS-07	22-Mar-18	14:00	F-MSR/OBS	Dissolved oxygen saturation		NA	114	%			
SS-08	22-Mar-18	12:45	F-MSR/OBS	Dissolved oxygen saturation		NA	117	%			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	Dissolved oxygen saturation		NA	95	%			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	Dissolved oxygen saturation		NA	94	%			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	Dissolved oxygen saturation		NA	89	%			
SS-01	22-Mar-18	16:45	F-MSR/OBS	Flow		NA	24.68	ft3/sec			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	Flow		NA	20.4	ft3/sec			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	Flow		NA	22.51	ft3/sec			
SS-08	22-Mar-18	12:45	F-MSR/OBS	Flow		NA	26.75	ft3/sec			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	Flow		NA	31.44	ft3/sec			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	Flow		NA	62.96	ft3/sec			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	Flow		NA	71.18	ft3/sec			
SS-06G	22-Mar-18	14:30	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	2	mg/l		1	1
SS-08	22-Mar-18	12:45	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	184	mg/l		1	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	75	mg/l		1	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	123	mg/l		1	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	187	mg/l		1	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	175	mg/l		1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	22-Mar-18	12:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	181	mg/l		1	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	170	mg/l		1	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	136	mg/l		1	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	135	mg/l		1	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	110	mg/l		1	1
SS-06G	22-Mar-18	14:30	QC-FB	Iron		Dissolved	0.006	mg/l	J	0.002	0.02
SS-08	22-Mar-18	12:45	QC-FD	Iron		Dissolved	0.13	mg/l		0.002	0.02
SS-01	22-Mar-18	16:45	S-ROUTINE	Iron		Dissolved	0.18	mg/l		0.002	0.02
SS-05A	22-Mar-18	15:30	S-ROUTINE	Iron		Dissolved	0.21	mg/l		0.002	0.02
SS-06G	22-Mar-18	14:45	S-ROUTINE	Iron		Dissolved	0.18	mg/l		0.002	0.02
SS-07	22-Mar-18	14:00	S-ROUTINE	Iron		Dissolved	0.15	mg/l		0.002	0.02
SS-08	22-Mar-18	12:45	S-ROUTINE	Iron		Dissolved	0.13	mg/l		0.002	0.02
SS-10A	22-Mar-18	11:30	S-ROUTINE	Iron		Dissolved	0.16	mg/l		0.002	0.02
SS-11C	22-Mar-18	9:00	S-ROUTINE	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-11D	22-Mar-18	8:30	S-ROUTINE	Iron		Dissolved	0.13	mg/l		0.002	0.02
SS-15G	22-Mar-18	13:15	S-ROUTINE	Iron		Dissolved	0.015	mg/l	J	0.002	0.02
SS-06G	22-Mar-18	14:30	QC-FB	Iron		Total Recv	<0.02	mg/l		0.02	0.02
SS-08	22-Mar-18	12:45	QC-FD	Iron		Total Recv	0.53	mg/l		0.02	0.02
SS-01	22-Mar-18	16:45	S-ROUTINE	Iron		Total Recv	4.12	mg/l		0.02	0.02
SS-05A	22-Mar-18	15:30	S-ROUTINE	Iron		Total Recv	0.93	mg/l		0.02	0.02
SS-06G	22-Mar-18	14:45	S-ROUTINE	Iron		Total Recv	0.48	mg/l		0.02	0.02
SS-07	22-Mar-18	14:00	S-ROUTINE	Iron		Total Recv	0.36	mg/l		0.02	0.02
SS-08	22-Mar-18	12:45	S-ROUTINE	Iron		Total Recv	0.5	mg/l		0.02	0.02
SS-10A	22-Mar-18	11:30	S-ROUTINE	Iron		Total Recv	0.62	mg/l		0.02	0.02
SS-11C	22-Mar-18	9:00	S-ROUTINE	Iron		Total Recv	0.84	mg/l		0.02	0.02
SS-11D	22-Mar-18	8:30	S-ROUTINE	Iron		Total Recv	0.84	mg/l		0.02	0.02
SS-15G	22-Mar-18	13:15	S-ROUTINE	Iron		Total Recv	0.19	mg/l		0.02	0.02
SS-06G	22-Mar-18	14:30	QC-FB	Lead		Dissolved	<0.00001	mg/l		0.00001	0.0003
SS-08	22-Mar-18	12:45	QC-FD	Lead		Dissolved	0.00023	mg/l	J	0.00001	0.0003
SS-01	22-Mar-18	16:45	S-ROUTINE	Lead		Dissolved	0.00028	mg/l	J	0.00001	0.0003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Lead		Dissolved	0.0005	mg/l		0.00001	0.0003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Lead		Dissolved	0.00016	mg/l	J	0.00001	0.0003
SS-07	22-Mar-18	14:00	S-ROUTINE	Lead		Dissolved	0.00019	mg/l	J	0.00001	0.0003
SS-08	22-Mar-18	12:45	S-ROUTINE	Lead		Dissolved	0.00024	mg/l	J	0.00001	0.0003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Lead		Dissolved	0.0003	mg/l		0.00001	0.0003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Lead		Dissolved	0.00025	mg/l	J	0.00001	0.0003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Lead		Dissolved	0.00025	mg/l	J	0.00001	0.0003
SS-15G	22-Mar-18	13:15	S-ROUTINE	Lead		Dissolved	<0.00001	mg/l		0.00001	0.0003
SS-06G	22-Mar-18	14:30	QC-FB	Lead		Total Recv	<0.00003	mg/l		0.00003	0.0003
SS-08	22-Mar-18	12:45	QC-FD	Lead		Total Recv	0.0021	mg/l		0.00003	0.0003
SS-01	22-Mar-18	16:45	S-ROUTINE	Lead		Total Recv	0.0106	mg/l		0.00003	0.0003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Lead		Total Recv	0.0164	mg/l		0.00003	0.0003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Lead		Total Recv	0.002	mg/l		0.00003	0.0003
SS-07	22-Mar-18	14:00	S-ROUTINE	Lead		Total Recv	0.001	mg/l		0.00003	0.0003
SS-08	22-Mar-18	12:45	S-ROUTINE	Lead		Total Recv	0.002	mg/l		0.00003	0.0003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Lead		Total Recv	0.003	mg/l		0.00003	0.0003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Lead		Total Recv	0.0026	mg/l		0.00003	0.0003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Lead		Total Recv	0.0028	mg/l		0.00003	0.0003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	22-Mar-18	13:15	S-ROUTINE	Lead		Total Recv	0.00027	mg/l	J	0.00003	0.0003
SS-06G	22-Mar-18	14:30	QC-FB	Magnesium		Dissolved	0.013	mg/l	J	0.005	1
SS-08	22-Mar-18	12:45	QC-FD	Magnesium		Dissolved	14	mg/l		0.05	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Magnesium		Dissolved	5	mg/l		0.05	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Magnesium		Dissolved	10	mg/l		0.05	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.05	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.05	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.05	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.05	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Magnesium		Dissolved	9	mg/l		0.05	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Magnesium		Dissolved	8	mg/l		0.05	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Magnesium		Dissolved	6	mg/l		0.05	1
SS-06G	22-Mar-18	14:30	QC-FB	Magnesium		Total Recv	0.027	mg/l	J	0.009	1
SS-08	22-Mar-18	12:45	QC-FD	Magnesium		Total Recv	14	mg/l		0.09	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.09	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Magnesium		Total Recv	10	mg/l		0.09	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.09	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.09	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.09	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Magnesium		Total Recv	13	mg/l		0.09	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Magnesium		Total Recv	9	mg/l		0.09	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Magnesium		Total Recv	9	mg/l		0.09	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.09	1
SS-06G	22-Mar-18	14:30	QC-FB	Manganese		Dissolved	0.00008	mg/l	J	0.00003	0.001
SS-08	22-Mar-18	12:45	QC-FD	Manganese		Dissolved	0.182	mg/l		0.00003	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Manganese		Dissolved	0.054	mg/l		0.00003	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Manganese		Dissolved	0.113	mg/l		0.00003	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Manganese		Dissolved	0.169	mg/l		0.00003	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Manganese		Dissolved	0.147	mg/l		0.00003	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Manganese		Dissolved	0.182	mg/l		0.00003	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Manganese		Dissolved	0.2	mg/l		0.00003	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Manganese		Dissolved	0.163	mg/l		0.00003	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Manganese		Dissolved	0.16	mg/l		0.00003	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Manganese		Dissolved	0.001	mg/l		0.00003	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Manganese		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-08	22-Mar-18	12:45	QC-FD	Manganese		Total Recv	0.206	mg/l		0.0002	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Manganese		Total Recv	0.217	mg/l		0.0002	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Manganese		Total Recv	0.156	mg/l		0.0002	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Manganese		Total Recv	0.187	mg/l		0.0002	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Manganese		Total Recv	0.157	mg/l		0.0002	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Manganese		Total Recv	0.203	mg/l		0.0002	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Manganese		Total Recv	0.236	mg/l		0.0002	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Manganese		Total Recv	0.208	mg/l		0.0002	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Manganese		Total Recv	0.213	mg/l		0.0002	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Manganese		Total Recv	0.012	mg/l		0.0002	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Mercury		Dissolved	<0.0000006	mg/l		0.0000006	0.000005
SS-08	22-Mar-18	12:45	QC-FD	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-01	22-Mar-18	16:45	S-ROUTINE	Mercury		Dissolved	0.0000033	mg/l	J	0.000001	0.000005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	22-Mar-18	15:30	S-ROUTINE	Mercury		Dissolved	0.0000024	mg/l	J	0.000001	0.000005
SS-06G	22-Mar-18	14:45	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-07	22-Mar-18	14:00	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-08	22-Mar-18	12:45	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-10A	22-Mar-18	11:30	S-ROUTINE	Mercury		Dissolved	0.0000017	mg/l	J	0.000001	0.000005
SS-11C	22-Mar-18	9:00	S-ROUTINE	Mercury		Dissolved	0.000009	mg/l		0.000001	0.000005
SS-11D	22-Mar-18	8:30	S-ROUTINE	Mercury		Dissolved	0.0000091	mg/l		0.000001	0.000005
SS-15G	22-Mar-18	13:15	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-06G	22-Mar-18	14:30	QC-FB	Mercury		Total Recv	<0.0000006	mg/l		0.0000006	0.000005
SS-08	22-Mar-18	12:45	QC-FD	Mercury		Total Recv	0.0000067	mg/l		0.000001	0.000005
SS-01	22-Mar-18	16:45	S-ROUTINE	Mercury		Total Recv	0.000037	mg/l		0.000001	0.000005
SS-05A	22-Mar-18	15:30	S-ROUTINE	Mercury		Total Recv	0.0000366	mg/l		0.000001	0.000005
SS-06G	22-Mar-18	14:45	S-ROUTINE	Mercury		Total Recv	0.0000074	mg/l		0.000001	0.000005
SS-07	22-Mar-18	14:00	S-ROUTINE	Mercury		Total Recv	0.0000043	mg/l	J	0.000001	0.000005
SS-08	22-Mar-18	12:45	S-ROUTINE	Mercury		Total Recv	0.0000064	mg/l		0.000001	0.000005
SS-10A	22-Mar-18	11:30	S-ROUTINE	Mercury		Total Recv	0.0000142	mg/l		0.000001	0.000005
SS-11C	22-Mar-18	9:00	S-ROUTINE	Mercury		Total Recv	0.0000216	mg/l		0.000001	0.000005
SS-11D	22-Mar-18	8:30	S-ROUTINE	Mercury		Total Recv	0.0000148	mg/l		0.000001	0.000005
SS-15G	22-Mar-18	13:15	S-ROUTINE	Mercury		Total Recv	0.0000023	mg/l	J	0.000001	0.000005
SS-06G	22-Mar-18	14:30	QC-FB	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-08	22-Mar-18	12:45	QC-FD	Molybdenum		Dissolved	0.0047	mg/l	J	0.00002	0.005
SS-01	22-Mar-18	16:45	S-ROUTINE	Molybdenum		Dissolved	0.003	mg/l	J	0.00002	0.005
SS-05A	22-Mar-18	15:30	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-06G	22-Mar-18	14:45	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-07	22-Mar-18	14:00	S-ROUTINE	Molybdenum		Dissolved	0.0047	mg/l	J	0.00002	0.005
SS-08	22-Mar-18	12:45	S-ROUTINE	Molybdenum		Dissolved	0.0047	mg/l	J	0.00002	0.005
SS-10A	22-Mar-18	11:30	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-11C	22-Mar-18	9:00	S-ROUTINE	Molybdenum		Dissolved	0.0037	mg/l	J	0.00002	0.005
SS-11D	22-Mar-18	8:30	S-ROUTINE	Molybdenum		Dissolved	0.0034	mg/l	J	0.00002	0.005
SS-15G	22-Mar-18	13:15	S-ROUTINE	Molybdenum		Dissolved	0.00033	mg/l	J	0.00002	0.005
SS-06G	22-Mar-18	14:30	QC-FB	Molybdenum		Total Recv	<0.00003	mg/l		0.00003	0.005
SS-08	22-Mar-18	12:45	QC-FD	Molybdenum		Total Recv	0.0048	mg/l	J	0.00003	0.005
SS-01	22-Mar-18	16:45	S-ROUTINE	Molybdenum		Total Recv	0.0034	mg/l	J	0.00003	0.005
SS-05A	22-Mar-18	15:30	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00003	0.005
SS-06G	22-Mar-18	14:45	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00003	0.005
SS-07	22-Mar-18	14:00	S-ROUTINE	Molybdenum		Total Recv	0.0049	mg/l	J	0.00003	0.005
SS-08	22-Mar-18	12:45	S-ROUTINE	Molybdenum		Total Recv	0.0048	mg/l	J	0.00003	0.005
SS-10A	22-Mar-18	11:30	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00003	0.005
SS-11C	22-Mar-18	9:00	S-ROUTINE	Molybdenum		Total Recv	0.0035	mg/l	J	0.00003	0.005
SS-11D	22-Mar-18	8:30	S-ROUTINE	Molybdenum		Total Recv	0.0036	mg/l	J	0.00003	0.005
SS-15G	22-Mar-18	13:15	S-ROUTINE	Molybdenum		Total Recv	0.00035	mg/l	J	0.00003	0.005
SS-06G	22-Mar-18	14:30	QC-FB	Nickel		Dissolved	<0.00003	mg/l		0.00003	0.002
SS-08	22-Mar-18	12:45	QC-FD	Nickel		Dissolved	0.00098	mg/l	J	0.00003	0.002
SS-01	22-Mar-18	16:45	S-ROUTINE	Nickel		Dissolved	0.00036	mg/l	J	0.00003	0.002
SS-05A	22-Mar-18	15:30	S-ROUTINE	Nickel		Dissolved	0.00028	mg/l	J	0.00003	0.002
SS-06G	22-Mar-18	14:45	S-ROUTINE	Nickel		Dissolved	0.00071	mg/l	J	0.00003	0.002
SS-07	22-Mar-18	14:00	S-ROUTINE	Nickel		Dissolved	0.00097	mg/l	J	0.00003	0.002
SS-08	22-Mar-18	12:45	S-ROUTINE	Nickel		Dissolved	0.00096	mg/l	J	0.00003	0.002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	22-Mar-18	11:30	S-ROUTINE	Nickel		Dissolved	0.00082	mg/l	J	0.00003	0.002
SS-11C	22-Mar-18	9:00	S-ROUTINE	Nickel		Dissolved	0.00077	mg/l	J	0.00003	0.002
SS-11D	22-Mar-18	8:30	S-ROUTINE	Nickel		Dissolved	0.00079	mg/l	J	0.00003	0.002
SS-15G	22-Mar-18	13:15	S-ROUTINE	Nickel		Dissolved	0.00006	mg/l	J	0.00003	0.002
SS-06G	22-Mar-18	14:30	QC-FB	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-08	22-Mar-18	12:45	QC-FD	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-01	22-Mar-18	16:45	S-ROUTINE	Nickel		Total Recv	0.002	mg/l		0.002	0.002
SS-05A	22-Mar-18	15:30	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-06G	22-Mar-18	14:45	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-07	22-Mar-18	14:00	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-08	22-Mar-18	12:45	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-10A	22-Mar-18	11:30	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-11C	22-Mar-18	9:00	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-11D	22-Mar-18	8:30	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-15G	22-Mar-18	13:15	S-ROUTINE	Nickel		Total Recv	<0.002	mg/l		0.002	0.002
SS-06G	22-Mar-18	14:30	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.007	mg/l		0.007	0.02
SS-08	22-Mar-18	12:45	QC-FD	Nitrate + Nitrite	as N	Unfiltered	1.12	mg/l		0.007	0.02
SS-01	22-Mar-18	16:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.41	mg/l		0.007	0.02
SS-05A	22-Mar-18	15:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.77	mg/l		0.007	0.02
SS-06G	22-Mar-18	14:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.08	mg/l		0.007	0.02
SS-07	22-Mar-18	14:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.07	mg/l		0.007	0.02
SS-08	22-Mar-18	12:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.12	mg/l		0.007	0.02
SS-10A	22-Mar-18	11:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.04	mg/l		0.007	0.02
SS-11C	22-Mar-18	9:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.56	mg/l		0.007	0.02
SS-11D	22-Mar-18	8:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.5	mg/l		0.007	0.02
SS-15G	22-Mar-18	13:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.06	mg/l		0.007	0.02
SS-01	22-Mar-18	16:45	F-MSR/OBS	pH		NA	7.37	None			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	pH		NA	7.96	None			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	pH		NA	8.42	None			
SS-07	22-Mar-18	14:00	F-MSR/OBS	pH		NA	8.21	None			
SS-08	22-Mar-18	12:45	F-MSR/OBS	pH		NA	7.84	None			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	pH		NA	7.75	None			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	pH		NA	7.54	None			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	pH		NA	7.61	None			
SS-06G	22-Mar-18	14:30	QC-FB	Potassium		Dissolved	<0.05	mg/l		0.05	1
SS-08	22-Mar-18	12:45	QC-FD	Potassium		Dissolved	6	mg/l		0.05	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.05	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Potassium		Dissolved	4	mg/l		0.05	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.05	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.05	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.05	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.05	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.05	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Potassium		Dissolved	7	mg/l		0.05	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.05	1
SS-06G	22-Mar-18	14:30	QC-FB	Potassium		Total Recv	<0.05	mg/l		0.05	1
SS-08	22-Mar-18	12:45	QC-FD	Potassium		Total Recv	6	mg/l		0.05	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.05	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	22-Mar-18	15:30	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.05	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.05	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.05	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.05	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.05	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.05	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.05	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Potassium		Total Recv	2	mg/l		0.05	1
SS-06G	22-Mar-18	14:30	QC-FB	Selenium		Dissolved	<0.00003	mg/l		0.00003	0.001
SS-08	22-Mar-18	12:45	QC-FD	Selenium		Dissolved	0.00013	mg/l	J	0.00003	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Selenium		Dissolved	0.00007	mg/l	J	0.00003	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Selenium		Dissolved	0.00009	mg/l	J	0.00003	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Selenium		Dissolved	0.00012	mg/l	J	0.00003	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Selenium		Dissolved	0.00014	mg/l	J	0.00003	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Selenium		Dissolved	0.00012	mg/l	J	0.00003	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Selenium		Dissolved	0.00012	mg/l	J	0.00003	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Selenium		Dissolved	0.00026	mg/l	J	0.00003	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Selenium		Dissolved	0.00023	mg/l	J	0.00003	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Selenium		Dissolved	0.00059	mg/l	J	0.00003	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Selenium		Total Recv	<0.00002	mg/l		0.00002	0.001
SS-08	22-Mar-18	12:45	QC-FD	Selenium		Total Recv	0.00021	mg/l	J	0.00002	0.001
SS-01	22-Mar-18	16:45	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00002	0.001
SS-05A	22-Mar-18	15:30	S-ROUTINE	Selenium		Total Recv	0.00014	mg/l	J	0.00002	0.001
SS-06G	22-Mar-18	14:45	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00002	0.001
SS-07	22-Mar-18	14:00	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00002	0.001
SS-08	22-Mar-18	12:45	S-ROUTINE	Selenium		Total Recv	0.00023	mg/l	J	0.00002	0.001
SS-10A	22-Mar-18	11:30	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00002	0.001
SS-11C	22-Mar-18	9:00	S-ROUTINE	Selenium		Total Recv	0.00029	mg/l	J	0.00002	0.001
SS-11D	22-Mar-18	8:30	S-ROUTINE	Selenium		Total Recv	0.00029	mg/l	J	0.00002	0.001
SS-15G	22-Mar-18	13:15	S-ROUTINE	Selenium		Total Recv	0.00063	mg/l	J	0.00002	0.001
SS-06G	22-Mar-18	14:30	QC-FB	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-08	22-Mar-18	12:45	QC-FD	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-01	22-Mar-18	16:45	S-ROUTINE	Silver		Dissolved	0.000015	mg/l	J	0.000008	0.0002
SS-05A	22-Mar-18	15:30	S-ROUTINE	Silver		Dissolved	0.000011	mg/l	J	0.000008	0.0002
SS-06G	22-Mar-18	14:45	S-ROUTINE	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-07	22-Mar-18	14:00	S-ROUTINE	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-08	22-Mar-18	12:45	S-ROUTINE	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-10A	22-Mar-18	11:30	S-ROUTINE	Silver		Dissolved	0.0000089	mg/l	J	0.000008	0.0002
SS-11C	22-Mar-18	9:00	S-ROUTINE	Silver		Dissolved	0.000019	mg/l	J	0.000008	0.0002
SS-11D	22-Mar-18	8:30	S-ROUTINE	Silver		Dissolved	0.000018	mg/l	J	0.000008	0.0002
SS-15G	22-Mar-18	13:15	S-ROUTINE	Silver		Dissolved	<0.000008	mg/l		0.000008	0.0002
SS-06G	22-Mar-18	14:30	QC-FB	Silver		Total Recv	<0.000008	mg/l		0.000008	0.0002
SS-08	22-Mar-18	12:45	QC-FD	Silver		Total Recv	0.000044	mg/l	J	0.000008	0.0002
SS-01	22-Mar-18	16:45	S-ROUTINE	Silver		Total Recv	0.0002	mg/l		0.000008	0.0002
SS-05A	22-Mar-18	15:30	S-ROUTINE	Silver		Total Recv	0.0002	mg/l		0.000008	0.0002
SS-06G	22-Mar-18	14:45	S-ROUTINE	Silver		Total Recv	0.000036	mg/l	J	0.000008	0.0002
SS-07	22-Mar-18	14:00	S-ROUTINE	Silver		Total Recv	0.000032	mg/l	J	0.000008	0.0002
SS-08	22-Mar-18	12:45	S-ROUTINE	Silver		Total Recv	0.000041	mg/l	J	0.000008	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	22-Mar-18	11:30	S-ROUTINE	Silver		Total Recv	0.000064	mg/l	J	0.000008	0.0002
SS-11C	22-Mar-18	9:00	S-ROUTINE	Silver		Total Recv	0.000095	mg/l	J	0.000008	0.0002
SS-11D	22-Mar-18	8:30	S-ROUTINE	Silver		Total Recv	0.000084	mg/l	J	0.000008	0.0002
SS-15G	22-Mar-18	13:15	S-ROUTINE	Silver		Total Recv	0.00002	mg/l	J	0.000008	0.0002
SS-06G	22-Mar-18	14:30	QC-FB	Sodium		Dissolved	0.04	mg/l	J	0.02	1
SS-08	22-Mar-18	12:45	QC-FD	Sodium		Dissolved	31	mg/l		0.02	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Sodium		Dissolved	9	mg/l		0.02	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Sodium		Dissolved	15	mg/l		0.02	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Sodium		Dissolved	24	mg/l		0.02	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Sodium		Dissolved	31	mg/l		0.02	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Sodium		Dissolved	32	mg/l		0.02	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Sodium		Dissolved	28	mg/l		0.02	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Sodium		Dissolved	21	mg/l		0.02	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Sodium		Dissolved	20	mg/l		0.02	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Sodium		Dissolved	5	mg/l		0.02	1
SS-06G	22-Mar-18	14:30	QC-FB	Sodium		Total Recv	<0.02	mg/l		0.02	1
SS-08	22-Mar-18	12:45	QC-FD	Sodium		Total Recv	32	mg/l		0.02	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Sodium		Total Recv	9	mg/l		0.02	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Sodium		Total Recv	16	mg/l		0.02	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Sodium		Total Recv	24	mg/l		0.02	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Sodium		Total Recv	31	mg/l		0.02	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Sodium		Total Recv	31	mg/l		0.02	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Sodium		Total Recv	28	mg/l		0.02	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Sodium		Total Recv	20	mg/l		0.02	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Sodium		Total Recv	21	mg/l		0.02	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Sodium		Total Recv	5	mg/l		0.02	1
SS-01	22-Mar-18	16:45	F-MSR/OBS	Specific conductance		NA	197.4	uS/cm			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	Specific conductance		NA	337.7	uS/cm			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	Specific conductance		NA	498.7	uS/cm			
SS-07	22-Mar-18	14:00	F-MSR/OBS	Specific conductance		NA	523.9	uS/cm			
SS-08	22-Mar-18	12:45	F-MSR/OBS	Specific conductance		NA	543.4	uS/cm			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	Specific conductance		NA	492.2	uS/cm			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	Specific conductance		NA	413.2	uS/cm			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	Specific conductance		NA	378	uS/cm			
SS-06G	22-Mar-18	14:30	QC-FB	Sulfate		Total	<0.01	mg/l		0.01	1
SS-08	22-Mar-18	12:45	QC-FD	Sulfate		Total	88	mg/l		0.01	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Sulfate		Total	12	mg/l		0.01	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Sulfate		Total	30	mg/l		0.01	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Sulfate		Total	87	mg/l		0.01	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Sulfate		Total	82	mg/l		0.01	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Sulfate		Total	89	mg/l		0.01	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Sulfate		Total	80	mg/l		0.01	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Sulfate		Total	57	mg/l		0.01	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Sulfate		Total	53	mg/l		0.01	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Sulfate		Total	26	mg/l		0.01	1
SS-01	22-Mar-18	16:45	F-MSR/OBS	Temperature, water		NA	4	deg C			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	Temperature, water		NA	7	deg C			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	Temperature, water		NA	6.1	deg C			

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	22-Mar-18	14:00	F-MSR/OBS	Temperature, water		NA	6.3	deg C			
SS-08	22-Mar-18	12:45	F-MSR/OBS	Temperature, water		NA	5.8	deg C			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	Temperature, water		NA	4.9	deg C			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	Temperature, water		NA	2.6	deg C			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	Temperature, water		NA	2	deg C			
SS-06G	22-Mar-18	14:30	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.01	mg/l		0.01	0.05
SS-08	22-Mar-18	12:45	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	2.82	mg/l	D	0.02	0.06
SS-01	22-Mar-18	16:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.07	mg/l		0.01	0.05
SS-05A	22-Mar-18	15:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.21	mg/l		0.01	0.05
SS-06G	22-Mar-18	14:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.5	mg/l		0.01	0.05
SS-07	22-Mar-18	14:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	3.5	mg/l	D	0.2	0.6
SS-08	22-Mar-18	12:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	3.5	mg/l	D	0.1	0.3
SS-10A	22-Mar-18	11:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.24	mg/l	D	0.02	0.06
SS-11C	22-Mar-18	9:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.87	mg/l	D	0.02	0.06
SS-11D	22-Mar-18	8:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	2.07	mg/l	D	0.02	0.06
SS-15G	22-Mar-18	13:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.18	mg/l		0.01	0.05
SS-06G	22-Mar-18	14:30	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	<0.0006	mg/l		0.0006	0.003
SS-08	22-Mar-18	12:45	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.115	mg/l		0.0006	0.003
SS-01	22-Mar-18	16:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.617	mg/l		0.001	0.003
SS-05A	22-Mar-18	15:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.177	mg/l		0.0006	0.003
SS-06G	22-Mar-18	14:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.108	mg/l		0.0006	0.003
SS-07	22-Mar-18	14:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.109	mg/l		0.0006	0.003
SS-08	22-Mar-18	12:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.124	mg/l		0.0006	0.003
SS-10A	22-Mar-18	11:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.154	mg/l		0.0006	0.003
SS-11C	22-Mar-18	9:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.25	mg/l		0.0006	0.003
SS-11D	22-Mar-18	8:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.27	mg/l		0.0006	0.003
SS-15G	22-Mar-18	13:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.04	mg/l		0.0006	0.003
SS-06G	22-Mar-18	14:30	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-08	22-Mar-18	12:45	QC-FD	Total suspended solids		NA	10	mg/l		0.3	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Total suspended solids		NA	115	mg/l	D	0.3	10
SS-05A	22-Mar-18	15:30	S-ROUTINE	Total suspended solids		NA	21	mg/l	D	0.3	2
SS-06G	22-Mar-18	14:45	S-ROUTINE	Total suspended solids		NA	7	mg/l		0.3	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Total suspended solids		NA	5	mg/l	D	0.3	2
SS-08	22-Mar-18	12:45	S-ROUTINE	Total suspended solids		NA	9	mg/l		0.3	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Total suspended solids		NA	11	mg/l		0.3	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Total suspended solids		NA	19	mg/l		0.3	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Total suspended solids		NA	20	mg/l	D	0.3	2
SS-15G	22-Mar-18	13:15	S-ROUTINE	Total suspended solids		NA	8	mg/l		0.3	1
SS-01	22-Mar-18	16:45	F-MSR/OBS	Turbidity		NA	78.1	NTU			
SS-05A	22-Mar-18	15:30	F-MSR/OBS	Turbidity		NA	17	NTU			
SS-06G	22-Mar-18	14:45	F-MSR/OBS	Turbidity		NA	4.98	NTU			
SS-07	22-Mar-18	14:00	F-MSR/OBS	Turbidity		NA	4.22	NTU			
SS-08	22-Mar-18	12:45	F-MSR/OBS	Turbidity		NA	7.02	NTU			
SS-10A	22-Mar-18	11:30	F-MSR/OBS	Turbidity		NA	8	NTU			
SS-11C	22-Mar-18	9:00	F-MSR/OBS	Turbidity		NA	16.8	NTU			
SS-11D	22-Mar-18	8:30	F-MSR/OBS	Turbidity		NA	17.3	NTU			
SS-06G	22-Mar-18	14:30	QC-FB	Uranium-238		Dissolved	<0.000003	mg/l		0.000003	0.0002
SS-08	22-Mar-18	12:45	QC-FD	Uranium-238		Dissolved	0.0047	mg/l		0.000003	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	22-Mar-18	16:45	S-ROUTINE	Uranium-238		Dissolved	0.0013	mg/l		0.000003	0.0002
SS-05A	22-Mar-18	15:30	S-ROUTINE	Uranium-238		Dissolved	0.0038	mg/l		0.000003	0.0002
SS-06G	22-Mar-18	14:45	S-ROUTINE	Uranium-238		Dissolved	0.0051	mg/l		0.000003	0.0002
SS-07	22-Mar-18	14:00	S-ROUTINE	Uranium-238		Dissolved	0.0044	mg/l		0.000003	0.0002
SS-08	22-Mar-18	12:45	S-ROUTINE	Uranium-238		Dissolved	0.0047	mg/l		0.000003	0.0002
SS-10A	22-Mar-18	11:30	S-ROUTINE	Uranium-238		Dissolved	0.0046	mg/l		0.000003	0.0002
SS-11C	22-Mar-18	9:00	S-ROUTINE	Uranium-238		Dissolved	0.0032	mg/l		0.000003	0.0002
SS-11D	22-Mar-18	8:30	S-ROUTINE	Uranium-238		Dissolved	0.003	mg/l		0.000003	0.0002
SS-15G	22-Mar-18	13:15	S-ROUTINE	Uranium-238		Dissolved	0.0009	mg/l		0.000003	0.0002
SS-06G	22-Mar-18	14:30	QC-FB	Uranium-238		Total Recv	<0.000008	mg/l		0.000008	0.0002
SS-08	22-Mar-18	12:45	QC-FD	Uranium-238		Total Recv	0.0048	mg/l		0.000008	0.0002
SS-01	22-Mar-18	16:45	S-ROUTINE	Uranium-238		Total Recv	0.0022	mg/l		0.000008	0.0002
SS-05A	22-Mar-18	15:30	S-ROUTINE	Uranium-238		Total Recv	0.004	mg/l		0.000008	0.0002
SS-06G	22-Mar-18	14:45	S-ROUTINE	Uranium-238		Total Recv	0.0051	mg/l		0.000008	0.0002
SS-07	22-Mar-18	14:00	S-ROUTINE	Uranium-238		Total Recv	0.0043	mg/l		0.000008	0.0002
SS-08	22-Mar-18	12:45	S-ROUTINE	Uranium-238		Total Recv	0.0047	mg/l		0.000008	0.0002
SS-10A	22-Mar-18	11:30	S-ROUTINE	Uranium-238		Total Recv	0.0047	mg/l		0.000008	0.0002
SS-11C	22-Mar-18	9:00	S-ROUTINE	Uranium-238		Total Recv	0.0032	mg/l		0.000008	0.0002
SS-11D	22-Mar-18	8:30	S-ROUTINE	Uranium-238		Total Recv	0.0032	mg/l		0.000008	0.0002
SS-15G	22-Mar-18	13:15	S-ROUTINE	Uranium-238		Total Recv	0.001	mg/l		0.000008	0.0002
SS-06G	22-Mar-18	14:30	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-08	22-Mar-18	12:45	QC-FD	Vanadium		Dissolved	0.0014	mg/l	J	0.00007	0.1
SS-01	22-Mar-18	16:45	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Vanadium		Dissolved	0.0022	mg/l	J	0.00007	0.1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Vanadium		Dissolved	0.0019	mg/l	J	0.00007	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Vanadium		Dissolved	0.0014	mg/l	J	0.00007	0.1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Vanadium		Dissolved	0.0015	mg/l	J	0.00007	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Vanadium		Dissolved	0.00095	mg/l	J	0.00007	0.1
SS-06G	22-Mar-18	14:30	QC-FB	Vanadium		Total Recv	<0.00003	mg/l		0.00003	0.1
SS-08	22-Mar-18	12:45	QC-FD	Vanadium		Total Recv	0.0022	mg/l	J	0.00003	0.1
SS-01	22-Mar-18	16:45	S-ROUTINE	Vanadium		Total Recv	0.01	mg/l	J	0.00003	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Vanadium		Total Recv	0.0037	mg/l	J	0.00003	0.1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Vanadium		Total Recv	0.0024	mg/l	J	0.00003	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Vanadium		Total Recv	0.0022	mg/l	J	0.00003	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Vanadium		Total Recv	0.0022	mg/l	J	0.00003	0.1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Vanadium		Total Recv	0.0022	mg/l	J	0.00003	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Vanadium		Total Recv	0.0029	mg/l	J	0.00003	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Vanadium		Total Recv	0.003	mg/l	J	0.00003	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Vanadium		Total Recv	0.0015	mg/l	J	0.00003	0.1
SS-06G	22-Mar-18	14:30	QC-FB	Zinc		Dissolved	0.015	mg/l		0.0001	0.008
SS-08	22-Mar-18	12:45	QC-FD	Zinc		Dissolved	0.062	mg/l		0.0001	0.008
SS-01	22-Mar-18	16:45	S-ROUTINE	Zinc		Dissolved	0.009	mg/l	B	0.0001	0.008
SS-05A	22-Mar-18	15:30	S-ROUTINE	Zinc		Dissolved	0.023	mg/l	B	0.0001	0.008
SS-06G	22-Mar-18	14:45	S-ROUTINE	Zinc		Dissolved	0.025	mg/l	B	0.0001	0.008
SS-07	22-Mar-18	14:00	S-ROUTINE	Zinc		Dissolved	0.04	mg/l	B	0.0001	0.008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	22-Mar-18	12:45	S-ROUTINE	Zinc		Dissolved	0.066	mg/l	B	0.0001	0.008
SS-10A	22-Mar-18	11:30	S-ROUTINE	Zinc		Dissolved	0.113	mg/l	B	0.0001	0.008
SS-11C	22-Mar-18	9:00	S-ROUTINE	Zinc		Dissolved	0.098	mg/l	B	0.0001	0.008
SS-11D	22-Mar-18	8:30	S-ROUTINE	Zinc		Dissolved	0.089	mg/l	B	0.0001	0.008
SS-15G	22-Mar-18	13:15	S-ROUTINE	Zinc		Dissolved	0.0037	mg/l	BJ	0.0001	0.008
SS-06G	22-Mar-18	14:30	QC-FB	Zinc		Total Recv	0.002	mg/l	J	0.002	0.008
SS-08	22-Mar-18	12:45	QC-FD	Zinc		Total Recv	0.073	mg/l		0.002	0.008
SS-01	22-Mar-18	16:45	S-ROUTINE	Zinc		Total Recv	0.055	mg/l		0.002	0.008
SS-05A	22-Mar-18	15:30	S-ROUTINE	Zinc		Total Recv	0.068	mg/l		0.002	0.008
SS-06G	22-Mar-18	14:45	S-ROUTINE	Zinc		Total Recv	0.036	mg/l		0.002	0.008
SS-07	22-Mar-18	14:00	S-ROUTINE	Zinc		Total Recv	0.044	mg/l		0.002	0.008
SS-08	22-Mar-18	12:45	S-ROUTINE	Zinc		Total Recv	0.075	mg/l		0.002	0.008
SS-10A	22-Mar-18	11:30	S-ROUTINE	Zinc		Total Recv	0.127	mg/l		0.002	0.008
SS-11C	22-Mar-18	9:00	S-ROUTINE	Zinc		Total Recv	0.114	mg/l		0.002	0.008
SS-11D	22-Mar-18	8:30	S-ROUTINE	Zinc		Total Recv	0.11	mg/l		0.002	0.008
SS-15G	22-Mar-18	13:15	S-ROUTINE	Zinc		Total Recv	0.002	mg/l	J	0.002	0.008

Table C-2. Second quarter surface water results from the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	QC-FB	Alkalinity, total	as CaCO3	Total	<2	mg/l		2	4
SS-13	6-Jun-18	16:15	QC-FD	Alkalinity, total	as CaCO3	Total	84	mg/l		2	4
SS-13	6-Jun-18	16:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	84	mg/l		2	4
SS-14	6-Jun-18	14:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	83	mg/l		2	4
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	85	mg/l		2	4
SS-15B	6-Jun-18	12:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	78	mg/l		2	4
SS-15G	6-Jun-18	13:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	72	mg/l		2	4
SS-16B	6-Jun-18	11:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	78	mg/l		2	4
SS-17D	6-Jun-18	9:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	79	mg/l		2	4
SS-19	6-Jun-18	9:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	81	mg/l		2	4
SS-13	6-Jun-18	16:15	QC-FB	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-13	6-Jun-18	16:15	QC-FD	Aluminum		Dissolved	0.019	mg/l		0.003	0.009
SS-13	6-Jun-18	16:15	S-ROUTINE	Aluminum		Dissolved	0.02	mg/l		0.003	0.009
SS-14	6-Jun-18	14:45	S-ROUTINE	Aluminum		Dissolved	0.019	mg/l		0.003	0.009
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Aluminum		Dissolved	0.017	mg/l		0.003	0.009
SS-15B	6-Jun-18	12:30	S-ROUTINE	Aluminum		Dissolved	0.017	mg/l		0.003	0.009
SS-15G	6-Jun-18	13:00	S-ROUTINE	Aluminum		Dissolved	0.016	mg/l		0.003	0.009
SS-16B	6-Jun-18	11:00	S-ROUTINE	Aluminum		Dissolved	0.015	mg/l		0.003	0.009
SS-17D	6-Jun-18	9:45	S-ROUTINE	Aluminum		Dissolved	0.014	mg/l		0.003	0.009
SS-19	6-Jun-18	9:00	S-ROUTINE	Aluminum		Dissolved	0.014	mg/l		0.003	0.009
SS-13	6-Jun-18	16:15	QC-FB	Aluminum		Total Recv	0.003	mg/l	J	0.003	0.009
SS-13	6-Jun-18	16:15	QC-FD	Aluminum		Total Recv	0.65	mg/l		0.003	0.009
SS-13	6-Jun-18	16:15	S-ROUTINE	Aluminum		Total Recv	0.678	mg/l		0.003	0.009
SS-14	6-Jun-18	14:45	S-ROUTINE	Aluminum		Total Recv	0.616	mg/l		0.003	0.009
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Aluminum		Total Recv	0.602	mg/l		0.003	0.009
SS-15B	6-Jun-18	12:30	S-ROUTINE	Aluminum		Total Recv	0.48	mg/l		0.003	0.009
SS-15G	6-Jun-18	13:00	S-ROUTINE	Aluminum		Total Recv	0.338	mg/l		0.003	0.009
SS-16B	6-Jun-18	11:00	S-ROUTINE	Aluminum		Total Recv	0.63	mg/l		0.003	0.009
SS-17D	6-Jun-18	9:45	S-ROUTINE	Aluminum		Total Recv	0.767	mg/l		0.003	0.009
SS-19	6-Jun-18	9:00	S-ROUTINE	Aluminum		Total Recv	0.812	mg/l		0.003	0.009
SS-13	6-Jun-18	16:15	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-13	6-Jun-18	16:15	QC-FD	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-13	6-Jun-18	16:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-14	6-Jun-18	14:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15B	6-Jun-18	12:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15G	6-Jun-18	13:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-16B	6-Jun-18	11:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-17D	6-Jun-18	9:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-19	6-Jun-18	9:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-13	6-Jun-18	16:15	QC-FB	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-13	6-Jun-18	16:15	QC-FD	Antimony		Dissolved	0.00042	mg/l	J	0.00009	0.0005
SS-13	6-Jun-18	16:15	S-ROUTINE	Antimony		Dissolved	0.00043	mg/l	J	0.00009	0.0005
SS-14	6-Jun-18	14:45	S-ROUTINE	Antimony		Dissolved	0.00042	mg/l	J	0.00009	0.0005
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Antimony		Dissolved	0.00046	mg/l	J	0.00009	0.0005
SS-15B	6-Jun-18	12:30	S-ROUTINE	Antimony		Dissolved	0.00033	mg/l	J	0.00009	0.0005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	6-Jun-18	13:00	S-ROUTINE	Antimony		Dissolved	0.00021	mg/l	J	0.00009	0.0005
SS-16B	6-Jun-18	11:00	S-ROUTINE	Antimony		Dissolved	0.00036	mg/l	J	0.00009	0.0005
SS-17D	6-Jun-18	9:45	S-ROUTINE	Antimony		Dissolved	0.00037	mg/l	J	0.00009	0.0005
SS-19	6-Jun-18	9:00	S-ROUTINE	Antimony		Dissolved	0.00036	mg/l	J	0.00009	0.0005
SS-13	6-Jun-18	16:15	QC-FB	Antimony		Total Recv	0.0001	mg/l	J	0.0001	0.0005
SS-13	6-Jun-18	16:15	QC-FD	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-13	6-Jun-18	16:15	S-ROUTINE	Antimony		Total Recv	0.0007	mg/l		0.0001	0.0005
SS-14	6-Jun-18	14:45	S-ROUTINE	Antimony		Total Recv	0.0007	mg/l		0.0001	0.0005
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l		0.0001	0.0005
SS-15B	6-Jun-18	12:30	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l		0.0001	0.0005
SS-15G	6-Jun-18	13:00	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.0001	0.0005
SS-16B	6-Jun-18	11:00	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-17D	6-Jun-18	9:45	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l		0.0001	0.0005
SS-19	6-Jun-18	9:00	S-ROUTINE	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-13	6-Jun-18	16:15	QC-FB	Arsenic		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-13	6-Jun-18	16:15	QC-FD	Arsenic		Dissolved	0.012	mg/l		0.00004	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00004	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00004	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00004	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Arsenic		Dissolved	0.008	mg/l		0.00004	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001
SS-13	6-Jun-18	16:15	QC-FB	Arsenic		Total Recv	0.00004	mg/l	J	0.00004	0.001
SS-13	6-Jun-18	16:15	QC-FD	Arsenic		Total Recv	0.014	mg/l		0.00004	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Arsenic		Total Recv	0.014	mg/l		0.00004	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Arsenic		Total Recv	0.014	mg/l		0.00004	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Arsenic		Total Recv	0.012	mg/l		0.00004	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Arsenic		Total Recv	0.009	mg/l		0.00004	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Arsenic		Total Recv	0.01	mg/l		0.00004	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Arsenic		Total Recv	0.011	mg/l		0.00004	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Arsenic		Total Recv	0.011	mg/l		0.00004	0.001
SS-13	6-Jun-18	16:15	QC-FB	Barium		Dissolved	0.0017	mg/l	J	0.00002	0.003
SS-13	6-Jun-18	16:15	QC-FD	Barium		Dissolved	0.028	mg/l		0.00002	0.003
SS-13	6-Jun-18	16:15	S-ROUTINE	Barium		Dissolved	0.029	mg/l		0.00002	0.003
SS-14	6-Jun-18	14:45	S-ROUTINE	Barium		Dissolved	0.028	mg/l		0.00002	0.003
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Barium		Dissolved	0.028	mg/l		0.00002	0.003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Barium		Dissolved	0.023	mg/l		0.00002	0.003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Barium		Dissolved	0.019	mg/l		0.00002	0.003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Barium		Dissolved	0.022	mg/l		0.00002	0.003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Barium		Dissolved	0.023	mg/l		0.00002	0.003
SS-19	6-Jun-18	9:00	S-ROUTINE	Barium		Dissolved	0.023	mg/l		0.00002	0.003
SS-13	6-Jun-18	16:15	QC-FB	Barium		Total Recv	<0.00009	mg/l		0.00009	0.003
SS-13	6-Jun-18	16:15	QC-FD	Barium		Total Recv	0.035	mg/l		0.00009	0.003
SS-13	6-Jun-18	16:15	S-ROUTINE	Barium		Total Recv	0.036	mg/l		0.00009	0.003
SS-14	6-Jun-18	14:45	S-ROUTINE	Barium		Total Recv	0.036	mg/l		0.00009	0.003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Barium		Total Recv	0.031	mg/l		0.00009	0.003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Barium		Total Recv	0.028	mg/l		0.00009	0.003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Barium		Total Recv	0.02	mg/l		0.00009	0.003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Barium		Total Recv	0.03	mg/l		0.00009	0.003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Barium		Total Recv	0.033	mg/l		0.00009	0.003
SS-19	6-Jun-18	9:00	S-ROUTINE	Barium		Total Recv	0.033	mg/l		0.00009	0.003
SS-13	6-Jun-18	16:15	QC-FB	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-13	6-Jun-18	16:15	QC-FD	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-13	6-Jun-18	16:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-14	6-Jun-18	14:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15B	6-Jun-18	12:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15G	6-Jun-18	13:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-16B	6-Jun-18	11:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-17D	6-Jun-18	9:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-19	6-Jun-18	9:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-13	6-Jun-18	16:15	QC-FB	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-13	6-Jun-18	16:15	QC-FD	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-13	6-Jun-18	16:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-14	6-Jun-18	14:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15B	6-Jun-18	12:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15G	6-Jun-18	13:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-16B	6-Jun-18	11:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-17D	6-Jun-18	9:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-19	6-Jun-18	9:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-13	6-Jun-18	16:15	QC-FB	Bicarbonate	as HCO3	Total	<2	mg/l		2	4
SS-13	6-Jun-18	16:15	QC-FD	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-13	6-Jun-18	16:15	S-ROUTINE	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-14	6-Jun-18	14:45	S-ROUTINE	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-15B	6-Jun-18	12:30	S-ROUTINE	Bicarbonate	as HCO3	Total	95	mg/l		2	4
SS-15G	6-Jun-18	13:00	S-ROUTINE	Bicarbonate	as HCO3	Total	87	mg/l		2	4
SS-16B	6-Jun-18	11:00	S-ROUTINE	Bicarbonate	as HCO3	Total	95	mg/l		2	4
SS-17D	6-Jun-18	9:45	S-ROUTINE	Bicarbonate	as HCO3	Total	96	mg/l		2	4
SS-19	6-Jun-18	9:00	S-ROUTINE	Bicarbonate	as HCO3	Total	99	mg/l		2	4
SS-13	6-Jun-18	16:15	QC-FB	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-13	6-Jun-18	16:15	QC-FD	Boron		Dissolved	0.029	mg/l	J	0.006	0.1
SS-13	6-Jun-18	16:15	S-ROUTINE	Boron		Dissolved	0.031	mg/l	J	0.006	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Boron		Dissolved	0.03	mg/l	J	0.006	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Boron		Dissolved	0.032	mg/l	J	0.006	0.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Boron		Dissolved	0.018	mg/l	J	0.006	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Boron		Dissolved	0.006	mg/l	J	0.006	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Boron		Dissolved	0.018	mg/l	J	0.006	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Boron		Dissolved	0.019	mg/l	J	0.006	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Boron		Dissolved	0.018	mg/l	J	0.006	0.1
SS-13	6-Jun-18	16:15	QC-FB	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-13	6-Jun-18	16:15	QC-FD	Boron		Total Recv	0.031	mg/l	J	0.005	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	S-ROUTINE	Boron		Total Recv	0.031	mg/l	J	0.005	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Boron		Total Recv	0.029	mg/l	J	0.005	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Boron		Total Recv	0.028	mg/l	J	0.005	0.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Boron		Total Recv	0.017	mg/l	J	0.005	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Boron		Total Recv	0.006	mg/l	J	0.005	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Boron		Total Recv	0.019	mg/l	J	0.005	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Boron		Total Recv	0.02	mg/l	J	0.005	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Boron		Total Recv	0.021	mg/l	J	0.005	0.1
SS-13	6-Jun-18	16:15	QC-FB	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-13	6-Jun-18	16:15	QC-FD	Cadmium		Dissolved	0.00012	mg/l		0.00003	0.00003
SS-13	6-Jun-18	16:15	S-ROUTINE	Cadmium		Dissolved	0.00012	mg/l		0.00003	0.00003
SS-14	6-Jun-18	14:45	S-ROUTINE	Cadmium		Dissolved	0.00013	mg/l		0.00003	0.00003
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cadmium		Dissolved	0.00013	mg/l		0.00003	0.00003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cadmium		Dissolved	0.00007	mg/l		0.00003	0.00003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cadmium		Dissolved	0.00008	mg/l		0.00003	0.00003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cadmium		Dissolved	0.00009	mg/l		0.00003	0.00003
SS-19	6-Jun-18	9:00	S-ROUTINE	Cadmium		Dissolved	0.0001	mg/l		0.00003	0.00003
SS-13	6-Jun-18	16:15	QC-FB	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-13	6-Jun-18	16:15	QC-FD	Cadmium		Total Recv	0.00028	mg/l		0.00003	0.00003
SS-13	6-Jun-18	16:15	S-ROUTINE	Cadmium		Total Recv	0.0003	mg/l		0.00003	0.00003
SS-14	6-Jun-18	14:45	S-ROUTINE	Cadmium		Total Recv	0.00027	mg/l		0.00003	0.00003
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cadmium		Total Recv	0.00028	mg/l		0.00003	0.00003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cadmium		Total Recv	0.00016	mg/l		0.00003	0.00003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cadmium		Total Recv	0.00019	mg/l		0.00003	0.00003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cadmium		Total Recv	0.00025	mg/l		0.00003	0.00003
SS-19	6-Jun-18	9:00	S-ROUTINE	Cadmium		Total Recv	0.00031	mg/l		0.00003	0.00003
SS-13	6-Jun-18	16:15	QC-FB	Calcium		Dissolved	<0.07	mg/l		0.07	1
SS-13	6-Jun-18	16:15	QC-FD	Calcium		Dissolved	33	mg/l		0.07	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Calcium		Dissolved	33	mg/l		0.07	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Calcium		Dissolved	32	mg/l		0.07	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Calcium		Dissolved	33	mg/l		0.07	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Calcium		Dissolved	31	mg/l		0.07	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Calcium		Dissolved	28	mg/l		0.07	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Calcium		Dissolved	30	mg/l		0.07	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Calcium		Dissolved	31	mg/l		0.07	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Calcium		Dissolved	31	mg/l		0.07	1
SS-13	6-Jun-18	16:15	QC-FB	Calcium		Total Recv	<0.09	mg/l		0.09	1
SS-13	6-Jun-18	16:15	QC-FD	Calcium		Total Recv	33	mg/l		0.09	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Calcium		Total Recv	34	mg/l		0.09	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Calcium		Total Recv	33	mg/l		0.09	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Calcium		Total Recv	29	mg/l		0.09	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Calcium		Total Recv	30	mg/l		0.09	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Calcium		Total Recv	28	mg/l		0.09	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Calcium		Total Recv	30	mg/l		0.09	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Calcium		Total Recv	32	mg/l		0.09	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Calcium		Total Recv	32	mg/l		0.09	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	QC-FB	Chloride		Total	0.009	mg/l	J	0.009	1
SS-13	6-Jun-18	16:15	QC-FD	Chloride		Total	17	mg/l		0.009	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Chloride		Total	17	mg/l		0.009	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Chloride		Total	17	mg/l		0.009	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Chloride		Total	17	mg/l		0.009	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Chloride		Total	9	mg/l		0.009	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Chloride		Total	0.41	mg/l	J	0.009	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Chloride		Total	9	mg/l		0.009	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Chloride		Total	9	mg/l		0.009	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Chloride		Total	9	mg/l		0.009	1
SS-13	6-Jun-18	16:15	QC-FB	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-13	6-Jun-18	16:15	QC-FD	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-13	6-Jun-18	16:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-14	6-Jun-18	14:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15B	6-Jun-18	12:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15G	6-Jun-18	13:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-16B	6-Jun-18	11:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-17D	6-Jun-18	9:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-19	6-Jun-18	9:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-13	6-Jun-18	16:15	QC-FB	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-13	6-Jun-18	16:15	QC-FD	Chromium		Total Recv	0.001	mg/l	J	0.0001	0.01
SS-13	6-Jun-18	16:15	S-ROUTINE	Chromium		Total Recv	0.0011	mg/l	J	0.0001	0.01
SS-14	6-Jun-18	14:45	S-ROUTINE	Chromium		Total Recv	0.0011	mg/l	J	0.0001	0.01
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Chromium		Total Recv	0.0009	mg/l	J	0.0001	0.01
SS-15B	6-Jun-18	12:30	S-ROUTINE	Chromium		Total Recv	0.0007	mg/l	J	0.0001	0.01
SS-15G	6-Jun-18	13:00	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-16B	6-Jun-18	11:00	S-ROUTINE	Chromium		Total Recv	0.0007	mg/l	J	0.0001	0.01
SS-17D	6-Jun-18	9:45	S-ROUTINE	Chromium		Total Recv	0.0009	mg/l	J	0.0001	0.01
SS-19	6-Jun-18	9:00	S-ROUTINE	Chromium		Total Recv	0.0009	mg/l	J	0.0001	0.01
SS-13	6-Jun-18	16:15	QC-FB	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-13	6-Jun-18	16:15	QC-FD	Cobalt		Dissolved	0.00013	mg/l	J	0.00009	0.01
SS-13	6-Jun-18	16:15	S-ROUTINE	Cobalt		Dissolved	0.00014	mg/l	J	0.00009	0.01
SS-14	6-Jun-18	14:45	S-ROUTINE	Cobalt		Dissolved	0.00014	mg/l	J	0.00009	0.01
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cobalt		Dissolved	0.00013	mg/l	J	0.00009	0.01
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cobalt		Dissolved	0.00045	mg/l	J	0.00009	0.01
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cobalt		Dissolved	0.00082	mg/l	J	0.00009	0.01
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cobalt		Dissolved	0.00045	mg/l	J	0.00009	0.01
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cobalt		Dissolved	0.00046	mg/l	J	0.00009	0.01
SS-19	6-Jun-18	9:00	S-ROUTINE	Cobalt		Dissolved	0.00046	mg/l	J	0.00009	0.01
SS-13	6-Jun-18	16:15	QC-FB	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-13	6-Jun-18	16:15	QC-FD	Cobalt		Total Recv	0.00035	mg/l	J	0.00006	0.01
SS-13	6-Jun-18	16:15	S-ROUTINE	Cobalt		Total Recv	0.0004	mg/l	J	0.00006	0.01
SS-14	6-Jun-18	14:45	S-ROUTINE	Cobalt		Total Recv	0.00034	mg/l	J	0.00006	0.01
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cobalt		Total Recv	0.00029	mg/l	J	0.00006	0.01
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cobalt		Total Recv	0.00057	mg/l	J	0.00006	0.01
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cobalt		Total Recv	0.00095	mg/l	J	0.00006	0.01
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cobalt		Total Recv	0.00067	mg/l	J	0.00006	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cobalt		Total Recv	0.0007	mg/l	J	0.00006	0.01
SS-19	6-Jun-18	9:00	S-ROUTINE	Cobalt		Total Recv	0.00076	mg/l	J	0.00006	0.01
SS-13	6-Jun-18	16:15	QC-FB	Copper		Dissolved	<0.0001	mg/l		0.0001	0.001
SS-13	6-Jun-18	16:15	QC-FD	Copper		Dissolved	0.018	mg/l		0.0001	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Copper		Dissolved	0.018	mg/l		0.0001	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Copper		Dissolved	0.018	mg/l		0.0001	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Copper		Dissolved	0.019	mg/l		0.0001	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Copper		Dissolved	0.01	mg/l		0.0001	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Copper		Dissolved	0.002	mg/l		0.0001	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Copper		Dissolved	0.011	mg/l		0.0001	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Copper		Dissolved	0.012	mg/l		0.0001	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Copper		Dissolved	0.012	mg/l		0.0001	0.001
SS-13	6-Jun-18	16:15	QC-FB	Copper		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-13	6-Jun-18	16:15	QC-FD	Copper		Total Recv	0.028	mg/l		0.0002	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Copper		Total Recv	0.029	mg/l		0.0002	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Copper		Total Recv	0.038	mg/l		0.0002	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Copper		Total Recv	0.027	mg/l		0.0002	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Copper		Total Recv	0.018	mg/l		0.0002	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Copper		Total Recv	0.002	mg/l		0.0002	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Copper		Total Recv	0.019	mg/l		0.0002	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Copper		Total Recv	0.041	mg/l		0.0002	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Copper		Total Recv	0.025	mg/l		0.0002	0.001
SS-13	6-Jun-18	16:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	11	mg/l			
SS-14	6-Jun-18	14:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.3	mg/l			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.4	mg/l			
SS-15B	6-Jun-18	12:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.9	mg/l			
SS-15G	6-Jun-18	13:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.8	mg/l			
SS-16B	6-Jun-18	11:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.3	mg/l			
SS-17D	6-Jun-18	9:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	11.2	mg/l			
SS-19	6-Jun-18	9:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.9	mg/l			
SS-13	6-Jun-18	16:15	F-MSR/OBS	Dissolved oxygen saturation		NA	141	%			
SS-14	6-Jun-18	14:45	F-MSR/OBS	Dissolved oxygen saturation		NA	130	%			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	Dissolved oxygen saturation		NA	116	%			
SS-15B	6-Jun-18	12:30	F-MSR/OBS	Dissolved oxygen saturation		NA	122	%			
SS-15G	6-Jun-18	13:00	F-MSR/OBS	Dissolved oxygen saturation		NA	122	%			
SS-16B	6-Jun-18	11:00	F-MSR/OBS	Dissolved oxygen saturation		NA	124	%			
SS-17D	6-Jun-18	9:45	F-MSR/OBS	Dissolved oxygen saturation		NA	120	%			
SS-19	6-Jun-18	9:00	F-MSR/OBS	Dissolved oxygen saturation		NA	117	%			
SS-13	6-Jun-18	16:15	F-MSR/OBS	Flow		NA	99.25	ft3/sec			
SS-14	6-Jun-18	14:45	F-MSR/OBS	Flow		NA	107.48	ft3/sec			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	Flow		NA	104.19	ft3/sec			
SS-13	6-Jun-18	16:15	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1	mg/l		1	1
SS-13	6-Jun-18	16:15	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	112	mg/l		1	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	113	mg/l		1	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	110	mg/l		1	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	114	mg/l		1	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	102	mg/l		1	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	89	mg/l		1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	6-Jun-18	11:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	99	mg/l		1	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	101	mg/l		1	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	103	mg/l		1	1
SS-13	6-Jun-18	16:15	QC-FB	Iron		Dissolved	<0.002	mg/l		0.002	0.02
SS-13	6-Jun-18	16:15	QC-FD	Iron		Dissolved	0.19	mg/l		0.002	0.02
SS-13	6-Jun-18	16:15	S-ROUTINE	Iron		Dissolved	0.2	mg/l		0.002	0.02
SS-14	6-Jun-18	14:45	S-ROUTINE	Iron		Dissolved	0.2	mg/l		0.002	0.02
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Iron		Dissolved	0.19	mg/l		0.002	0.02
SS-15B	6-Jun-18	12:30	S-ROUTINE	Iron		Dissolved	0.11	mg/l		0.002	0.02
SS-15G	6-Jun-18	13:00	S-ROUTINE	Iron		Dissolved	0.017	mg/l	J	0.002	0.02
SS-16B	6-Jun-18	11:00	S-ROUTINE	Iron		Dissolved	0.11	mg/l		0.002	0.02
SS-17D	6-Jun-18	9:45	S-ROUTINE	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-19	6-Jun-18	9:00	S-ROUTINE	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-13	6-Jun-18	16:15	QC-FB	Iron		Total Recv	<0.004	mg/l		0.004	0.02
SS-13	6-Jun-18	16:15	QC-FD	Iron		Total Recv	0.92	mg/l		0.004	0.02
SS-13	6-Jun-18	16:15	S-ROUTINE	Iron		Total Recv	0.96	mg/l		0.004	0.02
SS-14	6-Jun-18	14:45	S-ROUTINE	Iron		Total Recv	0.94	mg/l		0.004	0.02
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Iron		Total Recv	0.85	mg/l		0.004	0.02
SS-15B	6-Jun-18	12:30	S-ROUTINE	Iron		Total Recv	0.58	mg/l		0.004	0.02
SS-15G	6-Jun-18	13:00	S-ROUTINE	Iron		Total Recv	0.24	mg/l		0.004	0.02
SS-16B	6-Jun-18	11:00	S-ROUTINE	Iron		Total Recv	0.69	mg/l		0.004	0.02
SS-17D	6-Jun-18	9:45	S-ROUTINE	Iron		Total Recv	0.87	mg/l		0.004	0.02
SS-19	6-Jun-18	9:00	S-ROUTINE	Iron		Total Recv	0.93	mg/l		0.004	0.02
SS-13	6-Jun-18	16:15	QC-FB	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-13	6-Jun-18	16:15	QC-FD	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-13	6-Jun-18	16:15	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-14	6-Jun-18	14:45	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Lead		Dissolved	0.0003	mg/l	J	0.00003	0.0003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Lead		Dissolved	0.0003	mg/l	J	0.00003	0.0003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Lead		Dissolved	0.0003	mg/l		0.00003	0.0003
SS-19	6-Jun-18	9:00	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-13	6-Jun-18	16:15	QC-FB	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-13	6-Jun-18	16:15	QC-FD	Lead		Total Recv	0.0026	mg/l		0.00004	0.0003
SS-13	6-Jun-18	16:15	S-ROUTINE	Lead		Total Recv	0.0028	mg/l		0.00004	0.0003
SS-14	6-Jun-18	14:45	S-ROUTINE	Lead		Total Recv	0.0027	mg/l		0.00004	0.0003
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Lead		Total Recv	0.0027	mg/l		0.00004	0.0003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Lead		Total Recv	0.0018	mg/l		0.00004	0.0003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Lead		Total Recv	0.0003	mg/l		0.00004	0.0003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Lead		Total Recv	0.0024	mg/l		0.00004	0.0003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Lead		Total Recv	0.0154	mg/l		0.00004	0.0003
SS-19	6-Jun-18	9:00	S-ROUTINE	Lead		Total Recv	0.0035	mg/l		0.00004	0.0003
SS-13	6-Jun-18	16:15	QC-FB	Magnesium		Dissolved	<0.01	mg/l		0.01	1
SS-13	6-Jun-18	16:15	QC-FD	Magnesium		Dissolved	7	mg/l		0.1	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	6-Jun-18	12:30	S-ROUTINE	Magnesium		Dissolved	6	mg/l		0.1	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Magnesium		Dissolved	4	mg/l		0.1	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Magnesium		Dissolved	6	mg/l		0.1	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Magnesium		Dissolved	6	mg/l		0.1	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Magnesium		Dissolved	6	mg/l		0.1	1
SS-13	6-Jun-18	16:15	QC-FB	Magnesium		Total Recv	0.015	mg/l	J	0.009	1
SS-13	6-Jun-18	16:15	QC-FD	Magnesium		Total Recv	8	mg/l		0.2	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Magnesium		Total Recv	8	mg/l		0.2	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Magnesium		Total Recv	7	mg/l		0.2	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Magnesium		Total Recv	7	mg/l		0.2	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.2	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Magnesium		Total Recv	4	mg/l		0.2	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.2	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.2	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.2	1
SS-13	6-Jun-18	16:15	QC-FB	Manganese		Dissolved	<0.0003	mg/l		0.0003	0.001
SS-13	6-Jun-18	16:15	QC-FD	Manganese		Dissolved	0.081	mg/l		0.0003	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Manganese		Dissolved	0.082	mg/l		0.0003	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Manganese		Dissolved	0.083	mg/l		0.0003	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Manganese		Dissolved	0.092	mg/l		0.0003	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Manganese		Dissolved	0.051	mg/l		0.0003	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Manganese		Dissolved	0.002	mg/l		0.0003	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Manganese		Dissolved	0.057	mg/l		0.0003	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Manganese		Dissolved	0.069	mg/l		0.0003	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Manganese		Dissolved	0.066	mg/l		0.0003	0.001
SS-13	6-Jun-18	16:15	QC-FB	Manganese		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-13	6-Jun-18	16:15	QC-FD	Manganese		Total Recv	0.155	mg/l		0.0003	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Manganese		Total Recv	0.161	mg/l		0.0003	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Manganese		Total Recv	0.156	mg/l		0.0003	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Manganese		Total Recv	0.152	mg/l		0.0003	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Manganese		Total Recv	0.094	mg/l		0.0003	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Manganese		Total Recv	0.008	mg/l		0.0003	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Manganese		Total Recv	0.108	mg/l		0.0003	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Manganese		Total Recv	0.135	mg/l		0.0003	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Manganese		Total Recv	0.134	mg/l		0.0003	0.001
SS-13	6-Jun-18	16:15	QC-FB	Mercury		Dissolved	<0.000002	mg/l		0.000002	0.000005
SS-13	6-Jun-18	16:15	QC-FD	Mercury		Dissolved	0.0000037	mg/l	J	0.000002	0.000005
SS-13	6-Jun-18	16:15	S-ROUTINE	Mercury		Dissolved	0.0000037	mg/l	J	0.000002	0.000005
SS-14	6-Jun-18	14:45	S-ROUTINE	Mercury		Dissolved	0.0000026	mg/l	J	0.000002	0.000005
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Mercury		Dissolved	0.000004	mg/l	J	0.000002	0.000005
SS-15B	6-Jun-18	12:30	S-ROUTINE	Mercury		Dissolved	0.0000022	mg/l	J	0.000002	0.000005
SS-15G	6-Jun-18	13:00	S-ROUTINE	Mercury		Dissolved	0.000003	mg/l	J	0.000002	0.000005
SS-16B	6-Jun-18	11:00	S-ROUTINE	Mercury		Dissolved	<0.000002	mg/l		0.000002	0.000005
SS-17D	6-Jun-18	9:45	S-ROUTINE	Mercury		Dissolved	0.0000022	mg/l	J	0.000002	0.000005
SS-19	6-Jun-18	9:00	S-ROUTINE	Mercury		Dissolved	0.0000035	mg/l	J	0.000002	0.000005
SS-13	6-Jun-18	16:15	QC-FB	Mercury		Total Recv	<0.000002	mg/l		0.000002	0.000005
SS-13	6-Jun-18	16:15	QC-FD	Mercury		Total Recv	0.0000117	mg/l		0.000002	0.000005
SS-13	6-Jun-18	16:15	S-ROUTINE	Mercury		Total Recv	0.0000179	mg/l		0.000002	0.000005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	6-Jun-18	14:45	S-ROUTINE	Mercury		Total Recv	0.0000133	mg/l		0.000002	0.000005
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Mercury		Total Recv	0.0000151	mg/l		0.000002	0.000005
SS-15B	6-Jun-18	12:30	S-ROUTINE	Mercury		Total Recv	0.0000112	mg/l		0.000002	0.000005
SS-15G	6-Jun-18	13:00	S-ROUTINE	Mercury		Total Recv	0.000004	mg/l	J	0.000002	0.000005
SS-16B	6-Jun-18	11:00	S-ROUTINE	Mercury		Total Recv	0.0000157	mg/l		0.000002	0.000005
SS-17D	6-Jun-18	9:45	S-ROUTINE	Mercury		Total Recv	0.0000207	mg/l		0.000002	0.000005
SS-19	6-Jun-18	9:00	S-ROUTINE	Mercury		Total Recv	0.0000231	mg/l		0.000002	0.000005
SS-13	6-Jun-18	16:15	QC-FB	Molybdenum		Dissolved	0.00004	mg/l	J	0.00002	0.005
SS-13	6-Jun-18	16:15	QC-FD	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-13	6-Jun-18	16:15	S-ROUTINE	Molybdenum		Dissolved	0.0043	mg/l	J	0.00002	0.005
SS-14	6-Jun-18	14:45	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-15B	6-Jun-18	12:30	S-ROUTINE	Molybdenum		Dissolved	0.0024	mg/l	J	0.00002	0.005
SS-15G	6-Jun-18	13:00	S-ROUTINE	Molybdenum		Dissolved	0.00018	mg/l	J	0.00002	0.005
SS-16B	6-Jun-18	11:00	S-ROUTINE	Molybdenum		Dissolved	0.0023	mg/l	J	0.00002	0.005
SS-17D	6-Jun-18	9:45	S-ROUTINE	Molybdenum		Dissolved	0.0024	mg/l	J	0.00002	0.005
SS-19	6-Jun-18	9:00	S-ROUTINE	Molybdenum		Dissolved	0.0024	mg/l	J	0.00002	0.005
SS-13	6-Jun-18	16:15	QC-FB	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-13	6-Jun-18	16:15	QC-FD	Molybdenum		Total Recv	0.0044	mg/l	J	0.00002	0.005
SS-13	6-Jun-18	16:15	S-ROUTINE	Molybdenum		Total Recv	0.0044	mg/l	J	0.00002	0.005
SS-14	6-Jun-18	14:45	S-ROUTINE	Molybdenum		Total Recv	0.0044	mg/l	J	0.00002	0.005
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Molybdenum		Total Recv	0.0036	mg/l	J	0.00002	0.005
SS-15B	6-Jun-18	12:30	S-ROUTINE	Molybdenum		Total Recv	0.0023	mg/l	J	0.00002	0.005
SS-15G	6-Jun-18	13:00	S-ROUTINE	Molybdenum		Total Recv	0.0002	mg/l	J	0.00002	0.005
SS-16B	6-Jun-18	11:00	S-ROUTINE	Molybdenum		Total Recv	0.0022	mg/l	J	0.00002	0.005
SS-17D	6-Jun-18	9:45	S-ROUTINE	Molybdenum		Total Recv	0.0023	mg/l	J	0.00002	0.005
SS-19	6-Jun-18	9:00	S-ROUTINE	Molybdenum		Total Recv	0.0026	mg/l	J	0.00002	0.005
SS-13	6-Jun-18	16:15	QC-FB	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-13	6-Jun-18	16:15	QC-FD	Nickel		Dissolved	0.0009	mg/l	J	0.0002	0.002
SS-13	6-Jun-18	16:15	S-ROUTINE	Nickel		Dissolved	0.0009	mg/l	J	0.0002	0.002
SS-14	6-Jun-18	14:45	S-ROUTINE	Nickel		Dissolved	0.0008	mg/l	J	0.0002	0.002
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Nickel		Dissolved	0.0009	mg/l	J	0.0002	0.002
SS-15B	6-Jun-18	12:30	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-15G	6-Jun-18	13:00	S-ROUTINE	Nickel		Dissolved	0.0002	mg/l	J	0.0002	0.002
SS-16B	6-Jun-18	11:00	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-17D	6-Jun-18	9:45	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-19	6-Jun-18	9:00	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-13	6-Jun-18	16:15	QC-FB	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-13	6-Jun-18	16:15	QC-FD	Nickel		Total Recv	0.0013	mg/l	J	0.0001	0.002
SS-13	6-Jun-18	16:15	S-ROUTINE	Nickel		Total Recv	0.0013	mg/l	J	0.0001	0.002
SS-14	6-Jun-18	14:45	S-ROUTINE	Nickel		Total Recv	0.003	mg/l		0.0001	0.002
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Nickel		Total Recv	0.0013	mg/l	J	0.0001	0.002
SS-15B	6-Jun-18	12:30	S-ROUTINE	Nickel		Total Recv	0.001	mg/l	J	0.0001	0.002
SS-15G	6-Jun-18	13:00	S-ROUTINE	Nickel		Total Recv	0.0004	mg/l	J	0.0001	0.002
SS-16B	6-Jun-18	11:00	S-ROUTINE	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-17D	6-Jun-18	9:45	S-ROUTINE	Nickel		Total Recv	0.001	mg/l	J	0.0001	0.002
SS-19	6-Jun-18	9:00	S-ROUTINE	Nickel		Total Recv	0.0011	mg/l	J	0.0001	0.002
SS-13	6-Jun-18	16:15	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.16	mg/l		0.009	0.02
SS-13	6-Jun-18	16:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.17	mg/l		0.009	0.02
SS-14	6-Jun-18	14:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.16	mg/l		0.009	0.02
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.17	mg/l		0.009	0.02
SS-15B	6-Jun-18	12:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.1	mg/l		0.009	0.02
SS-15G	6-Jun-18	13:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.01	mg/l	J	0.009	0.02
SS-16B	6-Jun-18	11:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.1	mg/l		0.009	0.02
SS-17D	6-Jun-18	9:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.1	mg/l		0.009	0.02
SS-19	6-Jun-18	9:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.12	mg/l		0.009	0.02
SS-13	6-Jun-18	16:15	F-MSR/OBS	pH		NA	7.84	None			
SS-14	6-Jun-18	14:45	F-MSR/OBS	pH		NA	7.9	None			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	pH		NA	7.89	None			
SS-15B	6-Jun-18	12:30	F-MSR/OBS	pH		NA	7.79	None			
SS-15G	6-Jun-18	13:00	F-MSR/OBS	pH		NA	7.78	None			
SS-16B	6-Jun-18	11:00	F-MSR/OBS	pH		NA	7.83	None			
SS-17D	6-Jun-18	9:45	F-MSR/OBS	pH		NA	7.77	None			
SS-19	6-Jun-18	9:00	F-MSR/OBS	pH		NA	7.75	None			
SS-13	6-Jun-18	16:15	QC-FB	Potassium		Dissolved	<0.06	mg/l		0.06	1
SS-13	6-Jun-18	16:15	QC-FD	Potassium		Dissolved	3	mg/l		0.06	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Potassium		Dissolved	1	mg/l		0.06	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-13	6-Jun-18	16:15	QC-FB	Potassium		Total Recv	<0.06	mg/l		0.06	1
SS-13	6-Jun-18	16:15	QC-FD	Potassium		Total Recv	4	mg/l		0.06	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Potassium		Total Recv	1	mg/l		0.06	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-13	6-Jun-18	16:15	QC-FB	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-13	6-Jun-18	16:15	QC-FD	Selenium		Dissolved	0.00019	mg/l	J	0.00002	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Selenium		Dissolved	0.00021	mg/l	J	0.00002	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Selenium		Dissolved	0.00019	mg/l	J	0.00002	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Selenium		Dissolved	0.0002	mg/l	J	0.00002	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Selenium		Dissolved	0.0005	mg/l	J	0.00002	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Selenium		Dissolved	0.00086	mg/l	J	0.00002	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Selenium		Dissolved	0.00046	mg/l	J	0.00002	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Selenium		Dissolved	0.00043	mg/l	J	0.00002	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Selenium		Dissolved	0.0004	mg/l	J	0.00002	0.001
SS-13	6-Jun-18	16:15	QC-FB	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	QC-FD	Selenium		Total Recv	0.0002	mg/l	J	0.00005	0.001
SS-13	6-Jun-18	16:15	S-ROUTINE	Selenium		Total Recv	0.00021	mg/l	J	0.00005	0.001
SS-14	6-Jun-18	14:45	S-ROUTINE	Selenium		Total Recv	0.00023	mg/l	J	0.00005	0.001
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00005	0.001
SS-15B	6-Jun-18	12:30	S-ROUTINE	Selenium		Total Recv	0.00045	mg/l	J	0.00005	0.001
SS-15G	6-Jun-18	13:00	S-ROUTINE	Selenium		Total Recv	0.00073	mg/l	J	0.00005	0.001
SS-16B	6-Jun-18	11:00	S-ROUTINE	Selenium		Total Recv	0.00042	mg/l	J	0.00005	0.001
SS-17D	6-Jun-18	9:45	S-ROUTINE	Selenium		Total Recv	0.00046	mg/l	J	0.00005	0.001
SS-19	6-Jun-18	9:00	S-ROUTINE	Selenium		Total Recv	0.00049	mg/l	J	0.00005	0.001
SS-13	6-Jun-18	16:15	QC-FB	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-13	6-Jun-18	16:15	QC-FD	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-13	6-Jun-18	16:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-14	6-Jun-18	14:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15B	6-Jun-18	12:30	S-ROUTINE	Silver		Dissolved	0.00006	mg/l	J	0.00002	0.0002
SS-15G	6-Jun-18	13:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-16B	6-Jun-18	11:00	S-ROUTINE	Silver		Dissolved	0.00002	mg/l	J	0.00002	0.0002
SS-17D	6-Jun-18	9:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-19	6-Jun-18	9:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-13	6-Jun-18	16:15	QC-FB	Silver		Total Recv	0.000013	mg/l	J	0.000009	0.0002
SS-13	6-Jun-18	16:15	QC-FD	Silver		Total Recv	0.000067	mg/l	J	0.000009	0.0002
SS-13	6-Jun-18	16:15	S-ROUTINE	Silver		Total Recv	0.000068	mg/l	J	0.000009	0.0002
SS-14	6-Jun-18	14:45	S-ROUTINE	Silver		Total Recv	0.000098	mg/l	J	0.000009	0.0002
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Silver		Total Recv	0.000088	mg/l	J	0.000009	0.0002
SS-15B	6-Jun-18	12:30	S-ROUTINE	Silver		Total Recv	0.000058	mg/l	J	0.000009	0.0002
SS-15G	6-Jun-18	13:00	S-ROUTINE	Silver		Total Recv	0.000025	mg/l	J	0.000009	0.0002
SS-16B	6-Jun-18	11:00	S-ROUTINE	Silver		Total Recv	0.000066	mg/l	J	0.000009	0.0002
SS-17D	6-Jun-18	9:45	S-ROUTINE	Silver		Total Recv	0.000073	mg/l	J	0.000009	0.0002
SS-19	6-Jun-18	9:00	S-ROUTINE	Silver		Total Recv	0.000089	mg/l	J	0.000009	0.0002
SS-13	6-Jun-18	16:15	QC-FB	Sodium		Dissolved	0.03	mg/l	J	0.02	1
SS-13	6-Jun-18	16:15	QC-FD	Sodium		Dissolved	17	mg/l		0.02	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Sodium		Dissolved	18	mg/l		0.02	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Sodium		Dissolved	17	mg/l		0.02	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Sodium		Dissolved	18	mg/l		0.02	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Sodium		Dissolved	11	mg/l		0.02	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Sodium		Dissolved	3	mg/l		0.02	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Sodium		Dissolved	11	mg/l		0.02	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Sodium		Dissolved	12	mg/l		0.02	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Sodium		Dissolved	12	mg/l		0.02	1
SS-13	6-Jun-18	16:15	QC-FB	Sodium		Total Recv	<0.03	mg/l		0.03	1
SS-13	6-Jun-18	16:15	QC-FD	Sodium		Total Recv	19	mg/l		0.03	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Sodium		Total Recv	19	mg/l		0.03	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Sodium		Total Recv	19	mg/l		0.03	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Sodium		Total Recv	18	mg/l		0.03	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Sodium		Total Recv	12	mg/l		0.03	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Sodium		Total Recv	3	mg/l		0.03	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Sodium		Total Recv	12	mg/l		0.03	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Sodium		Total Recv	12	mg/l		0.03	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-19	6-Jun-18	9:00	S-ROUTINE	Sodium		Total Recv	13	mg/l		0.03	1
SS-13	6-Jun-18	16:15	F-MSR/OBS	Specific conductance		NA	303.6	uS/cm			
SS-14	6-Jun-18	14:45	F-MSR/OBS	Specific conductance		NA	295.2	uS/cm			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	Specific conductance		NA	308.5	uS/cm			
SS-15B	6-Jun-18	12:30	F-MSR/OBS	Specific conductance		NA	247.2	uS/cm			
SS-15G	6-Jun-18	13:00	F-MSR/OBS	Specific conductance		NA	177.8	uS/cm			
SS-16B	6-Jun-18	11:00	F-MSR/OBS	Specific conductance		NA	247.6	uS/cm			
SS-17D	6-Jun-18	9:45	F-MSR/OBS	Specific conductance		NA	242.8	uS/cm			
SS-19	6-Jun-18	9:00	F-MSR/OBS	Specific conductance		NA	253	uS/cm			
SS-13	6-Jun-18	16:15	QC-FB	Sulfate		Total	<0.01	mg/l		0.01	1
SS-13	6-Jun-18	16:15	QC-FD	Sulfate		Total	37	mg/l		0.01	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Sulfate		Total	37	mg/l		0.01	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Sulfate		Total	36	mg/l		0.01	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Sulfate		Total	38	mg/l		0.01	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Sulfate		Total	28	mg/l		0.01	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Sulfate		Total	18	mg/l		0.01	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Sulfate		Total	29	mg/l		0.01	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Sulfate		Total	30	mg/l		0.01	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Sulfate		Total	30	mg/l		0.01	1
SS-13	6-Jun-18	16:15	F-MSR/OBS	Temperature, water		NA	17.7	deg C			
SS-14	6-Jun-18	14:45	F-MSR/OBS	Temperature, water		NA	17.1	deg C			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	Temperature, water		NA	16.3	deg C			
SS-15B	6-Jun-18	12:30	F-MSR/OBS	Temperature, water		NA	11.8	deg C			
SS-15G	6-Jun-18	13:00	F-MSR/OBS	Temperature, water		NA	8.5	deg C			
SS-16B	6-Jun-18	11:00	F-MSR/OBS	Temperature, water		NA	11.2	deg C			
SS-17D	6-Jun-18	9:45	F-MSR/OBS	Temperature, water		NA	10.8	deg C			
SS-19	6-Jun-18	9:00	F-MSR/OBS	Temperature, water		NA	10.6	deg C			
SS-13	6-Jun-18	16:15	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.01	mg/l		0.01	0.05
SS-13	6-Jun-18	16:15	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	0.59	mg/l		0.01	0.05
SS-13	6-Jun-18	16:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.64	mg/l		0.01	0.05
SS-14	6-Jun-18	14:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.58	mg/l		0.01	0.05
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.68	mg/l		0.01	0.05
SS-15B	6-Jun-18	12:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.4	mg/l		0.01	0.05
SS-15G	6-Jun-18	13:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.12	mg/l		0.01	0.05
SS-16B	6-Jun-18	11:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.39	mg/l		0.01	0.05
SS-17D	6-Jun-18	9:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.42	mg/l		0.01	0.05
SS-19	6-Jun-18	9:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.43	mg/l		0.01	0.05
SS-13	6-Jun-18	16:15	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	<0.0006	mg/l		0.0006	0.003
SS-13	6-Jun-18	16:15	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.203	mg/l		0.0006	0.003
SS-13	6-Jun-18	16:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.173	mg/l		0.0006	0.003
SS-14	6-Jun-18	14:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.176	mg/l		0.0006	0.003
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.188	mg/l		0.0006	0.003
SS-15B	6-Jun-18	12:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.109	mg/l		0.0006	0.003
SS-15G	6-Jun-18	13:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.025	mg/l		0.0006	0.003
SS-16B	6-Jun-18	11:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.116	mg/l		0.0006	0.003
SS-17D	6-Jun-18	9:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.12	mg/l		0.0006	0.003
SS-19	6-Jun-18	9:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.126	mg/l		0.0006	0.003
SS-13	6-Jun-18	16:15	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	QC-FD	Total suspended solids		NA	18	mg/l	D	0.3	4
SS-13	6-Jun-18	16:15	S-ROUTINE	Total suspended solids		NA	18	mg/l	D	0.3	4
SS-14	6-Jun-18	14:45	S-ROUTINE	Total suspended solids		NA	16	mg/l	D	0.3	4
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Total suspended solids		NA	19	mg/l	D	0.3	4
SS-15B	6-Jun-18	12:30	S-ROUTINE	Total suspended solids		NA	15	mg/l	D	0.3	4
SS-15G	6-Jun-18	13:00	S-ROUTINE	Total suspended solids		NA	7	mg/l	D	0.3	2
SS-16B	6-Jun-18	11:00	S-ROUTINE	Total suspended solids		NA	19	mg/l	D	0.3	4
SS-17D	6-Jun-18	9:45	S-ROUTINE	Total suspended solids		NA	22	mg/l	D	0.3	4
SS-19	6-Jun-18	9:00	S-ROUTINE	Total suspended solids		NA	24	mg/l	D	0.3	4
SS-13	6-Jun-18	16:15	F-MSR/OBS	Turbidity		NA	10.6	NTU			
SS-14	6-Jun-18	14:45	F-MSR/OBS	Turbidity		NA	10.7	NTU			
SS-15A-2	6-Jun-18	13:30	F-MSR/OBS	Turbidity		NA	12.1	NTU			
SS-15B	6-Jun-18	12:30	F-MSR/OBS	Turbidity		NA	7.8	NTU			
SS-15G	6-Jun-18	13:00	F-MSR/OBS	Turbidity		NA	3.5	NTU			
SS-16B	6-Jun-18	11:00	F-MSR/OBS	Turbidity		NA	9.2	NTU			
SS-17D	6-Jun-18	9:45	F-MSR/OBS	Turbidity		NA	11.2	NTU			
SS-19	6-Jun-18	9:00	F-MSR/OBS	Turbidity		NA	12.8	NTU			
SS-13	6-Jun-18	16:15	QC-FB	Uranium-238		Dissolved	<0.00001	mg/l		0.00001	0.0002
SS-13	6-Jun-18	16:15	QC-FD	Uranium-238		Dissolved	0.0022	mg/l		0.00001	0.0002
SS-13	6-Jun-18	16:15	S-ROUTINE	Uranium-238		Dissolved	0.0023	mg/l		0.00001	0.0002
SS-14	6-Jun-18	14:45	S-ROUTINE	Uranium-238		Dissolved	0.0022	mg/l		0.00001	0.0002
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Uranium-238		Dissolved	0.0021	mg/l		0.00001	0.0002
SS-15B	6-Jun-18	12:30	S-ROUTINE	Uranium-238		Dissolved	0.0013	mg/l		0.00001	0.0002
SS-15G	6-Jun-18	13:00	S-ROUTINE	Uranium-238		Dissolved	0.0003	mg/l		0.00001	0.0002
SS-16B	6-Jun-18	11:00	S-ROUTINE	Uranium-238		Dissolved	0.0013	mg/l		0.00001	0.0002
SS-17D	6-Jun-18	9:45	S-ROUTINE	Uranium-238		Dissolved	0.0013	mg/l		0.00001	0.0002
SS-19	6-Jun-18	9:00	S-ROUTINE	Uranium-238		Dissolved	0.0014	mg/l		0.00001	0.0002
SS-13	6-Jun-18	16:15	QC-FB	Uranium-238		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-13	6-Jun-18	16:15	QC-FD	Uranium-238		Total Recv	0.0023	mg/l		0.000009	0.0002
SS-13	6-Jun-18	16:15	S-ROUTINE	Uranium-238		Total Recv	0.0024	mg/l		0.000009	0.0002
SS-14	6-Jun-18	14:45	S-ROUTINE	Uranium-238		Total Recv	0.0023	mg/l		0.000009	0.0002
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Uranium-238		Total Recv	0.0019	mg/l		0.000009	0.0002
SS-15B	6-Jun-18	12:30	S-ROUTINE	Uranium-238		Total Recv	0.0013	mg/l		0.000009	0.0002
SS-15G	6-Jun-18	13:00	S-ROUTINE	Uranium-238		Total Recv	0.0004	mg/l		0.000009	0.0002
SS-16B	6-Jun-18	11:00	S-ROUTINE	Uranium-238		Total Recv	0.0013	mg/l		0.000009	0.0002
SS-17D	6-Jun-18	9:45	S-ROUTINE	Uranium-238		Total Recv	0.0016	mg/l		0.000009	0.0002
SS-19	6-Jun-18	9:00	S-ROUTINE	Uranium-238		Total Recv	0.0016	mg/l		0.000009	0.0002
SS-13	6-Jun-18	16:15	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-13	6-Jun-18	16:15	QC-FD	Vanadium		Dissolved	0.0023	mg/l	J	0.00007	0.1
SS-13	6-Jun-18	16:15	S-ROUTINE	Vanadium		Dissolved	0.0023	mg/l	J	0.00007	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Vanadium		Dissolved	0.0022	mg/l	J	0.00007	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Vanadium		Dissolved	0.0022	mg/l	J	0.00007	0.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Vanadium		Dissolved	0.0016	mg/l	J	0.00007	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Vanadium		Dissolved	0.001	mg/l	J	0.00007	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Vanadium		Dissolved	0.0016	mg/l	J	0.00007	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-13	6-Jun-18	16:15	QC-FB	Vanadium		Total Recv	0.00024	mg/l	J	0.00002	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	6-Jun-18	16:15	QC-FD	Vanadium		Total Recv	0.0035	mg/l	J	0.00002	0.1
SS-13	6-Jun-18	16:15	S-ROUTINE	Vanadium		Total Recv	0.0034	mg/l	J	0.00002	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Vanadium		Total Recv	0.0033	mg/l	J	0.00002	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Vanadium		Total Recv	0.0029	mg/l	J	0.00002	0.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Vanadium		Total Recv	0.0024	mg/l	J	0.00002	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Vanadium		Total Recv	0.0016	mg/l	J	0.00002	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Vanadium		Total Recv	0.0027	mg/l	J	0.00002	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Vanadium		Total Recv	0.0031	mg/l	J	0.00002	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Vanadium		Total Recv	0.0034	mg/l	J	0.00002	0.1
SS-13	6-Jun-18	16:15	QC-FB	Zinc		Dissolved	0.009	mg/l		0.0003	0.008
SS-13	6-Jun-18	16:15	QC-FD	Zinc		Dissolved	0.027	mg/l	B	0.0003	0.008
SS-13	6-Jun-18	16:15	S-ROUTINE	Zinc		Dissolved	0.027	mg/l	B	0.0003	0.008
SS-14	6-Jun-18	14:45	S-ROUTINE	Zinc		Dissolved	0.028	mg/l	B	0.0003	0.008
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Zinc		Dissolved	0.037	mg/l	B	0.0003	0.008
SS-15B	6-Jun-18	12:30	S-ROUTINE	Zinc		Dissolved	0.023	mg/l	B	0.0003	0.008
SS-15G	6-Jun-18	13:00	S-ROUTINE	Zinc		Dissolved	0.004	mg/l	J	0.0003	0.008
SS-16B	6-Jun-18	11:00	S-ROUTINE	Zinc		Dissolved	0.025	mg/l	B	0.0003	0.008
SS-17D	6-Jun-18	9:45	S-ROUTINE	Zinc		Dissolved	0.028	mg/l	B	0.0003	0.008
SS-19	6-Jun-18	9:00	S-ROUTINE	Zinc		Dissolved	0.03	mg/l	B	0.0003	0.008
SS-13	6-Jun-18	16:15	QC-FB	Zinc		Total Recv	<0.001	mg/l		0.001	0.008
SS-13	6-Jun-18	16:15	QC-FD	Zinc		Total Recv	0.052	mg/l		0.001	0.008
SS-13	6-Jun-18	16:15	S-ROUTINE	Zinc		Total Recv	0.053	mg/l		0.001	0.008
SS-14	6-Jun-18	14:45	S-ROUTINE	Zinc		Total Recv	0.057	mg/l		0.001	0.008
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Zinc		Total Recv	0.064	mg/l		0.001	0.008
SS-15B	6-Jun-18	12:30	S-ROUTINE	Zinc		Total Recv	0.04	mg/l		0.001	0.008
SS-15G	6-Jun-18	13:00	S-ROUTINE	Zinc		Total Recv	0.002	mg/l	J	0.001	0.008
SS-16B	6-Jun-18	11:00	S-ROUTINE	Zinc		Total Recv	0.047	mg/l		0.001	0.008
SS-17D	6-Jun-18	9:45	S-ROUTINE	Zinc		Total Recv	0.06	mg/l		0.001	0.008
SS-19	6-Jun-18	9:00	S-ROUTINE	Zinc		Total Recv	0.062	mg/l		0.001	0.008
SS-07	7-Jun-18	14:00	QC-FB	Alkalinity, total	as CaCO3	Total	<2	mg/l		2	4
SS-11C	7-Jun-18	10:00	QC-FD	Alkalinity, total	as CaCO3	Total	87	mg/l		2	4
SS-01	7-Jun-18	17:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	67	mg/l		2	4
SS-05A	7-Jun-18	16:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	73	mg/l		2	4
SS-06G	7-Jun-18	14:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	75	mg/l		2	4
SS-07	7-Jun-18	14:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	80	mg/l		2	4
SS-08	7-Jun-18	12:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	83	mg/l		2	4
SS-10A	7-Jun-18	11:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	83	mg/l		2	4
SS-11C	7-Jun-18	10:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	88	mg/l		2	4
SS-11D	7-Jun-18	9:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	85	mg/l		2	4
SS-07	7-Jun-18	14:00	QC-FB	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-11C	7-Jun-18	10:00	QC-FD	Aluminum		Dissolved	0.015	mg/l		0.003	0.009
SS-01	7-Jun-18	17:15	S-ROUTINE	Aluminum		Dissolved	0.016	mg/l		0.003	0.009
SS-05A	7-Jun-18	16:00	S-ROUTINE	Aluminum		Dissolved	0.012	mg/l		0.003	0.009
SS-06G	7-Jun-18	14:45	S-ROUTINE	Aluminum		Dissolved	0.015	mg/l		0.003	0.009
SS-07	7-Jun-18	14:15	S-ROUTINE	Aluminum		Dissolved	0.012	mg/l		0.003	0.009
SS-08	7-Jun-18	12:30	S-ROUTINE	Aluminum		Dissolved	0.011	mg/l		0.003	0.009
SS-10A	7-Jun-18	11:15	S-ROUTINE	Aluminum		Dissolved	0.019	mg/l		0.003	0.009
SS-11C	7-Jun-18	10:00	S-ROUTINE	Aluminum		Dissolved	0.015	mg/l		0.003	0.009

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	7-Jun-18	9:15	S-ROUTINE	Aluminum		Dissolved	0.017	mg/l		0.003	0.009
SS-07	7-Jun-18	14:00	QC-FB	Aluminum		Total Recv	0.003	mg/l	J	0.003	0.009
SS-11C	7-Jun-18	10:00	QC-FD	Aluminum		Total Recv	0.22	mg/l		0.003	0.009
SS-01	7-Jun-18	17:15	S-ROUTINE	Aluminum		Total Recv	0.285	mg/l		0.003	0.009
SS-05A	7-Jun-18	16:00	S-ROUTINE	Aluminum		Total Recv	0.3	mg/l		0.003	0.009
SS-06G	7-Jun-18	14:45	S-ROUTINE	Aluminum		Total Recv	0.207	mg/l		0.004	0.009
SS-07	7-Jun-18	14:15	S-ROUTINE	Aluminum		Total Recv	0.209	mg/l		0.003	0.009
SS-08	7-Jun-18	12:30	S-ROUTINE	Aluminum		Total Recv	0.237	mg/l		0.003	0.009
SS-10A	7-Jun-18	11:15	S-ROUTINE	Aluminum		Total Recv	0.207	mg/l		0.003	0.009
SS-11C	7-Jun-18	10:00	S-ROUTINE	Aluminum		Total Recv	0.218	mg/l		0.003	0.009
SS-11D	7-Jun-18	9:15	S-ROUTINE	Aluminum		Total Recv	0.61	mg/l		0.003	0.009
SS-07	7-Jun-18	14:00	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11C	7-Jun-18	10:00	QC-FD	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-01	7-Jun-18	17:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-05A	7-Jun-18	16:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-06G	7-Jun-18	14:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-07	7-Jun-18	14:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-08	7-Jun-18	12:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-10A	7-Jun-18	11:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11C	7-Jun-18	10:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11D	7-Jun-18	9:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-07	7-Jun-18	14:00	QC-FB	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-11C	7-Jun-18	10:00	QC-FD	Antimony		Dissolved	0.0006	mg/l		0.00009	0.0005
SS-01	7-Jun-18	17:15	S-ROUTINE	Antimony		Dissolved	0.00035	mg/l	J	0.00009	0.0005
SS-05A	7-Jun-18	16:00	S-ROUTINE	Antimony		Dissolved	0.00037	mg/l	J	0.00009	0.0005
SS-06G	7-Jun-18	14:45	S-ROUTINE	Antimony		Dissolved	0.00042	mg/l	J	0.00009	0.0005
SS-07	7-Jun-18	14:15	S-ROUTINE	Antimony		Dissolved	0.00044	mg/l	J	0.00009	0.0005
SS-08	7-Jun-18	12:30	S-ROUTINE	Antimony		Dissolved	0.00047	mg/l	J	0.00009	0.0005
SS-10A	7-Jun-18	11:15	S-ROUTINE	Antimony		Dissolved	0.00045	mg/l	J	0.00009	0.0005
SS-11C	7-Jun-18	10:00	S-ROUTINE	Antimony		Dissolved	0.0006	mg/l		0.00009	0.0005
SS-11D	7-Jun-18	9:15	S-ROUTINE	Antimony		Dissolved	0.0005	mg/l	J	0.00009	0.0005
SS-07	7-Jun-18	14:00	QC-FB	Antimony		Total Recv	0.0001	mg/l	J	0.0001	0.0005
SS-11C	7-Jun-18	10:00	QC-FD	Antimony		Total Recv	0.0008	mg/l		0.0001	0.0005
SS-01	7-Jun-18	17:15	S-ROUTINE	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-05A	7-Jun-18	16:00	S-ROUTINE	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-06G	7-Jun-18	14:45	S-ROUTINE	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-07	7-Jun-18	14:15	S-ROUTINE	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-08	7-Jun-18	12:30	S-ROUTINE	Antimony		Total Recv	0.0007	mg/l		0.0001	0.0005
SS-10A	7-Jun-18	11:15	S-ROUTINE	Antimony		Total Recv	0.0007	mg/l		0.0001	0.0005
SS-11C	7-Jun-18	10:00	S-ROUTINE	Antimony		Total Recv	0.0008	mg/l		0.0001	0.0005
SS-11D	7-Jun-18	9:15	S-ROUTINE	Antimony		Total Recv	0.0008	mg/l		0.0001	0.0005
SS-07	7-Jun-18	14:00	QC-FB	Arsenic		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Arsenic		Dissolved	0.011	mg/l		0.00004	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Arsenic		Dissolved	0.01	mg/l		0.00004	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Arsenic		Dissolved	0.01	mg/l		0.00004	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	7-Jun-18	11:15	S-ROUTINE	Arsenic		Dissolved	0.01	mg/l		0.00004	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Arsenic		Dissolved	0.009	mg/l		0.00004	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Arsenic		Dissolved	0.012	mg/l		0.00004	0.001
SS-07	7-Jun-18	14:00	QC-FB	Arsenic		Total Recv	<0.00004	mg/l		0.00004	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Arsenic		Total Recv	0.011	mg/l		0.00004	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Arsenic		Total Recv	0.012	mg/l		0.00004	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Arsenic		Total Recv	0.013	mg/l		0.00004	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Arsenic		Total Recv	0.012	mg/l		0.00004	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Arsenic		Total Recv	0.011	mg/l		0.00004	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Arsenic		Total Recv	0.012	mg/l		0.00004	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Arsenic		Total Recv	0.011	mg/l		0.00004	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Arsenic		Total Recv	0.011	mg/l		0.00004	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Arsenic		Total Recv	0.014	mg/l		0.00004	0.001
SS-07	7-Jun-18	14:00	QC-FB	Barium		Dissolved	0.0022	mg/l	J	0.00002	0.003
SS-11C	7-Jun-18	10:00	QC-FD	Barium		Dissolved	0.035	mg/l		0.00002	0.003
SS-01	7-Jun-18	17:15	S-ROUTINE	Barium		Dissolved	0.04	mg/l		0.00002	0.003
SS-05A	7-Jun-18	16:00	S-ROUTINE	Barium		Dissolved	0.039	mg/l		0.00002	0.003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Barium		Dissolved	0.032	mg/l		0.00002	0.003
SS-07	7-Jun-18	14:15	S-ROUTINE	Barium		Dissolved	0.031	mg/l		0.00002	0.003
SS-08	7-Jun-18	12:30	S-ROUTINE	Barium		Dissolved	0.03	mg/l		0.00002	0.003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Barium		Dissolved	0.032	mg/l		0.00002	0.003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Barium		Dissolved	0.034	mg/l		0.00002	0.003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Barium		Dissolved	0.03	mg/l		0.00002	0.003
SS-07	7-Jun-18	14:00	QC-FB	Barium		Total Recv	0.00015	mg/l	J	0.00009	0.003
SS-11C	7-Jun-18	10:00	QC-FD	Barium		Total Recv	0.036	mg/l		0.00009	0.003
SS-01	7-Jun-18	17:15	S-ROUTINE	Barium		Total Recv	0.029	mg/l		0.00009	0.003
SS-05A	7-Jun-18	16:00	S-ROUTINE	Barium		Total Recv	0.033	mg/l		0.00009	0.003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Barium		Total Recv	0.031	mg/l		0.00009	0.003
SS-07	7-Jun-18	14:15	S-ROUTINE	Barium		Total Recv	0.032	mg/l		0.00009	0.003
SS-08	7-Jun-18	12:30	S-ROUTINE	Barium		Total Recv	0.033	mg/l		0.00009	0.003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Barium		Total Recv	0.031	mg/l		0.00009	0.003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Barium		Total Recv	0.035	mg/l		0.00009	0.003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Barium		Total Recv	0.039	mg/l		0.00009	0.003
SS-07	7-Jun-18	14:00	QC-FB	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11C	7-Jun-18	10:00	QC-FD	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-01	7-Jun-18	17:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-05A	7-Jun-18	16:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-06G	7-Jun-18	14:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-07	7-Jun-18	14:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-08	7-Jun-18	12:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-10A	7-Jun-18	11:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11C	7-Jun-18	10:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11D	7-Jun-18	9:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-07	7-Jun-18	14:00	QC-FB	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11C	7-Jun-18	10:00	QC-FD	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-01	7-Jun-18	17:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-05A	7-Jun-18	16:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-06G	7-Jun-18	14:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	7-Jun-18	14:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-08	7-Jun-18	12:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-10A	7-Jun-18	11:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11C	7-Jun-18	10:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11D	7-Jun-18	9:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-07	7-Jun-18	14:00	QC-FB	Bicarbonate	as HCO3	Total	<2	mg/l		2	4
SS-11C	7-Jun-18	10:00	QC-FD	Bicarbonate	as HCO3	Total	110	mg/l		2	4
SS-01	7-Jun-18	17:15	S-ROUTINE	Bicarbonate	as HCO3	Total	81	mg/l		2	4
SS-05A	7-Jun-18	16:00	S-ROUTINE	Bicarbonate	as HCO3	Total	89	mg/l		2	4
SS-06G	7-Jun-18	14:45	S-ROUTINE	Bicarbonate	as HCO3	Total	90	mg/l		2	4
SS-07	7-Jun-18	14:15	S-ROUTINE	Bicarbonate	as HCO3	Total	97	mg/l		2	4
SS-08	7-Jun-18	12:30	S-ROUTINE	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-10A	7-Jun-18	11:15	S-ROUTINE	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-11C	7-Jun-18	10:00	S-ROUTINE	Bicarbonate	as HCO3	Total	110	mg/l		2	4
SS-11D	7-Jun-18	9:15	S-ROUTINE	Bicarbonate	as HCO3	Total	100	mg/l		2	4
SS-07	7-Jun-18	14:00	QC-FB	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-11C	7-Jun-18	10:00	QC-FD	Boron		Dissolved	0.04	mg/l	J	0.006	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Boron		Dissolved	0.032	mg/l	J	0.006	0.1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Boron		Dissolved	0.02	mg/l	J	0.006	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Boron		Dissolved	0.029	mg/l	J	0.006	0.1
SS-07	7-Jun-18	14:15	S-ROUTINE	Boron		Dissolved	0.036	mg/l	J	0.006	0.1
SS-08	7-Jun-18	12:30	S-ROUTINE	Boron		Dissolved	0.039	mg/l	J	0.006	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Boron		Dissolved	0.038	mg/l	J	0.006	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Boron		Dissolved	0.042	mg/l	J	0.006	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Boron		Dissolved	0.034	mg/l	J	0.006	0.1
SS-07	7-Jun-18	14:00	QC-FB	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-11C	7-Jun-18	10:00	QC-FD	Boron		Total Recv	0.043	mg/l	J	0.005	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Boron		Total Recv	0.016	mg/l	J	0.005	0.1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Boron		Total Recv	0.019	mg/l	J	0.005	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Boron		Total Recv	0.026	mg/l	J	0.005	0.1
SS-07	7-Jun-18	14:15	S-ROUTINE	Boron		Total Recv	0.035	mg/l	J	0.005	0.1
SS-08	7-Jun-18	12:30	S-ROUTINE	Boron		Total Recv	0.034	mg/l	J	0.005	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Boron		Total Recv	0.035	mg/l	J	0.005	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Boron		Total Recv	0.043	mg/l	J	0.005	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Boron		Total Recv	0.031	mg/l	J	0.005	0.1
SS-07	7-Jun-18	14:00	QC-FB	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-11C	7-Jun-18	10:00	QC-FD	Cadmium		Dissolved	0.00025	mg/l		0.00003	0.00003
SS-01	7-Jun-18	17:15	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cadmium		Dissolved	0.00005	mg/l		0.00003	0.00003
SS-07	7-Jun-18	14:15	S-ROUTINE	Cadmium		Dissolved	0.00004	mg/l		0.00003	0.00003
SS-08	7-Jun-18	12:30	S-ROUTINE	Cadmium		Dissolved	0.00012	mg/l		0.00003	0.00003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cadmium		Dissolved	0.00019	mg/l		0.00003	0.00003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cadmium		Dissolved	0.00022	mg/l		0.00003	0.00003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cadmium		Dissolved	0.00016	mg/l		0.00003	0.00003
SS-07	7-Jun-18	14:00	QC-FB	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-11C	7-Jun-18	10:00	QC-FD	Cadmium		Total Recv	0.00036	mg/l		0.00003	0.00003
SS-01	7-Jun-18	17:15	S-ROUTINE	Cadmium		Total Recv	0.00004	mg/l		0.00003	0.00003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cadmium		Total Recv	0.00007	mg/l		0.00003	0.00003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cadmium		Total Recv	0.00011	mg/l		0.00003	0.00003
SS-07	7-Jun-18	14:15	S-ROUTINE	Cadmium		Total Recv	0.0001	mg/l		0.00003	0.00003
SS-08	7-Jun-18	12:30	S-ROUTINE	Cadmium		Total Recv	0.0002	mg/l		0.00003	0.00003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cadmium		Total Recv	0.00041	mg/l		0.00003	0.00003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cadmium		Total Recv	0.00037	mg/l		0.00003	0.00003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cadmium		Total Recv	0.00033	mg/l		0.00003	0.00003
SS-07	7-Jun-18	14:00	QC-FB	Calcium		Dissolved	<0.07	mg/l		0.07	1
SS-11C	7-Jun-18	10:00	QC-FD	Calcium		Dissolved	40	mg/l		0.07	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Calcium		Dissolved	22	mg/l		0.07	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Calcium		Dissolved	25	mg/l		0.07	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Calcium		Dissolved	30	mg/l		0.07	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Calcium		Dissolved	31	mg/l		0.07	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Calcium		Dissolved	33	mg/l		0.07	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Calcium		Dissolved	34	mg/l		0.07	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Calcium		Dissolved	40	mg/l		0.07	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Calcium		Dissolved	34	mg/l		0.07	1
SS-07	7-Jun-18	14:00	QC-FB	Calcium		Total Recv	<0.09	mg/l		0.09	1
SS-11C	7-Jun-18	10:00	QC-FD	Calcium		Total Recv	39	mg/l		0.09	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Calcium		Total Recv	22	mg/l		0.09	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Calcium		Total Recv	24	mg/l		0.09	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Calcium		Total Recv	29	mg/l		0.09	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Calcium		Total Recv	29	mg/l		0.09	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Calcium		Total Recv	32	mg/l		0.09	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Calcium		Total Recv	31	mg/l		0.09	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Calcium		Total Recv	39	mg/l		0.09	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Calcium		Total Recv	34	mg/l		0.09	1
SS-07	7-Jun-18	14:00	QC-FB	Chloride		Total	<0.009	mg/l		0.009	1
SS-11C	7-Jun-18	10:00	QC-FD	Chloride		Total	25	mg/l		0.009	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Chloride		Total	6	mg/l		0.009	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Chloride		Total	9	mg/l		0.009	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Chloride		Total	12	mg/l		0.009	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Chloride		Total	16	mg/l		0.009	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Chloride		Total	16	mg/l		0.009	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Chloride		Total	16	mg/l		0.009	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Chloride		Total	25	mg/l		0.009	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Chloride		Total	18	mg/l		0.009	1
SS-07	7-Jun-18	14:00	QC-FB	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11C	7-Jun-18	10:00	QC-FD	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-01	7-Jun-18	17:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-05A	7-Jun-18	16:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-06G	7-Jun-18	14:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-07	7-Jun-18	14:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-08	7-Jun-18	12:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-10A	7-Jun-18	11:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11C	7-Jun-18	10:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11D	7-Jun-18	9:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-07	7-Jun-18	14:00	QC-FB	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	7-Jun-18	10:00	QC-FD	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-01	7-Jun-18	17:15	S-ROUTINE	Chromium		Total Recv	0.0005	mg/l	J	0.0001	0.01
SS-05A	7-Jun-18	16:00	S-ROUTINE	Chromium		Total Recv	0.0006	mg/l	J	0.0001	0.01
SS-06G	7-Jun-18	14:45	S-ROUTINE	Chromium		Total Recv	0.0005	mg/l	J	0.0001	0.01
SS-07	7-Jun-18	14:15	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-08	7-Jun-18	12:30	S-ROUTINE	Chromium		Total Recv	0.0005	mg/l	J	0.0001	0.01
SS-10A	7-Jun-18	11:15	S-ROUTINE	Chromium		Total Recv	0.0005	mg/l	J	0.0001	0.01
SS-11C	7-Jun-18	10:00	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-11D	7-Jun-18	9:15	S-ROUTINE	Chromium		Total Recv	0.001	mg/l	J	0.0001	0.01
SS-07	7-Jun-18	14:00	QC-FB	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-11C	7-Jun-18	10:00	QC-FD	Cobalt		Dissolved	0.00014	mg/l	J	0.00009	0.01
SS-01	7-Jun-18	17:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cobalt		Dissolved	0.00012	mg/l	J	0.00009	0.01
SS-07	7-Jun-18	14:15	S-ROUTINE	Cobalt		Dissolved	0.00011	mg/l	J	0.00009	0.01
SS-08	7-Jun-18	12:30	S-ROUTINE	Cobalt		Dissolved	0.00013	mg/l	J	0.00009	0.01
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cobalt		Dissolved	0.00014	mg/l	J	0.00009	0.01
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cobalt		Dissolved	0.00012	mg/l	J	0.00009	0.01
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cobalt		Dissolved	0.00013	mg/l	J	0.00009	0.01
SS-07	7-Jun-18	14:00	QC-FB	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-11C	7-Jun-18	10:00	QC-FD	Cobalt		Total Recv	0.00022	mg/l	J	0.00006	0.01
SS-01	7-Jun-18	17:15	S-ROUTINE	Cobalt		Total Recv	0.0002	mg/l	J	0.00006	0.01
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cobalt		Total Recv	0.00021	mg/l	J	0.00006	0.01
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cobalt		Total Recv	0.00019	mg/l	J	0.00006	0.01
SS-07	7-Jun-18	14:15	S-ROUTINE	Cobalt		Total Recv	0.00015	mg/l	J	0.00006	0.01
SS-08	7-Jun-18	12:30	S-ROUTINE	Cobalt		Total Recv	0.00021	mg/l	J	0.00006	0.01
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cobalt		Total Recv	0.00028	mg/l	J	0.00006	0.01
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cobalt		Total Recv	0.00021	mg/l	J	0.00006	0.01
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cobalt		Total Recv	0.00037	mg/l	J	0.00006	0.01
SS-07	7-Jun-18	14:00	QC-FB	Copper		Dissolved	<0.0001	mg/l		0.0001	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Copper		Dissolved	0.026	mg/l		0.0001	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Copper		Dissolved	0.008	mg/l		0.0001	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Copper		Dissolved	0.008	mg/l		0.0001	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Copper		Dissolved	0.01	mg/l		0.0001	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Copper		Dissolved	0.008	mg/l		0.0001	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Copper		Dissolved	0.012	mg/l		0.0001	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Copper		Dissolved	0.028	mg/l		0.0001	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Copper		Dissolved	0.026	mg/l		0.0001	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Copper		Dissolved	0.019	mg/l		0.0001	0.001
SS-07	7-Jun-18	14:00	QC-FB	Copper		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Copper		Total Recv	0.038	mg/l		0.0002	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Copper		Total Recv	0.01	mg/l		0.0002	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Copper		Total Recv	0.014	mg/l		0.0002	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Copper		Total Recv	0.015	mg/l		0.0002	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Copper		Total Recv	0.014	mg/l		0.0002	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Copper		Total Recv	0.02	mg/l		0.0002	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Copper		Total Recv	0.036	mg/l		0.0002	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Copper		Total Recv	0.037	mg/l		0.0002	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	7-Jun-18	9:15	S-ROUTINE	Copper		Total Recv	0.028	mg/l		0.0002	0.001
SS-01	7-Jun-18	17:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	7.8	mg/l			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.9	mg/l			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	9	mg/l			
SS-07	7-Jun-18	14:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.8	mg/l			
SS-08	7-Jun-18	12:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.5	mg/l			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.5	mg/l			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	9	mg/l			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.9	mg/l			
SS-01	7-Jun-18	17:15	F-MSR/OBS	Dissolved oxygen saturation		NA	96	%			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	Dissolved oxygen saturation		NA	109	%			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	Dissolved oxygen saturation		NA	111	%			
SS-07	7-Jun-18	14:15	F-MSR/OBS	Dissolved oxygen saturation		NA	107	%			
SS-08	7-Jun-18	12:30	F-MSR/OBS	Dissolved oxygen saturation		NA	119	%			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	Dissolved oxygen saturation		NA	119	%			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	Dissolved oxygen saturation		NA	109	%			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	Dissolved oxygen saturation		NA	106	%			
SS-01	7-Jun-18	17:15	F-MSR/OBS	Flow		NA	57.67	ft3/sec			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	Flow		NA	59.85	ft3/sec			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	Flow		NA	64.27	ft3/sec			
SS-08	7-Jun-18	12:30	F-MSR/OBS	Flow		NA	69.01	ft3/sec			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	Flow		NA	67.07	ft3/sec			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	Flow		NA	71.73	ft3/sec			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	Flow		NA	106.59	ft3/sec			
SS-07	7-Jun-18	14:00	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1	mg/l		1	1
SS-11C	7-Jun-18	10:00	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	136	mg/l		1	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	75	mg/l		1	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	86	mg/l		1	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	105	mg/l		1	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	108	mg/l		1	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	114	mg/l		1	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	118	mg/l		1	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	136	mg/l		1	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	115	mg/l		1	1
SS-07	7-Jun-18	14:00	QC-FB	Iron		Dissolved	<0.002	mg/l		0.002	0.02
SS-11C	7-Jun-18	10:00	QC-FD	Iron		Dissolved	0.26	mg/l		0.002	0.02
SS-01	7-Jun-18	17:15	S-ROUTINE	Iron		Dissolved	0.42	mg/l		0.002	0.02
SS-05A	7-Jun-18	16:00	S-ROUTINE	Iron		Dissolved	0.36	mg/l		0.002	0.02
SS-06G	7-Jun-18	14:45	S-ROUTINE	Iron		Dissolved	0.38	mg/l		0.002	0.02
SS-07	7-Jun-18	14:15	S-ROUTINE	Iron		Dissolved	0.32	mg/l		0.002	0.02
SS-08	7-Jun-18	12:30	S-ROUTINE	Iron		Dissolved	0.28	mg/l		0.002	0.02
SS-10A	7-Jun-18	11:15	S-ROUTINE	Iron		Dissolved	0.28	mg/l		0.002	0.02
SS-11C	7-Jun-18	10:00	S-ROUTINE	Iron		Dissolved	0.24	mg/l		0.002	0.02
SS-11D	7-Jun-18	9:15	S-ROUTINE	Iron		Dissolved	0.2	mg/l		0.002	0.02
SS-07	7-Jun-18	14:00	QC-FB	Iron		Total Recv	<0.004	mg/l		0.004	0.02
SS-11C	7-Jun-18	10:00	QC-FD	Iron		Total Recv	0.74	mg/l		0.004	0.02
SS-01	7-Jun-18	17:15	S-ROUTINE	Iron		Total Recv	1.02	mg/l		0.004	0.02
SS-05A	7-Jun-18	16:00	S-ROUTINE	Iron		Total Recv	1.03	mg/l		0.004	0.02

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	7-Jun-18	14:45	S-ROUTINE	Iron		Total Recv	0.92	mg/l		0.006	0.02
SS-07	7-Jun-18	14:15	S-ROUTINE	Iron		Total Recv	0.81	mg/l		0.004	0.02
SS-08	7-Jun-18	12:30	S-ROUTINE	Iron		Total Recv	0.87	mg/l		0.004	0.02
SS-10A	7-Jun-18	11:15	S-ROUTINE	Iron		Total Recv	0.75	mg/l		0.004	0.02
SS-11C	7-Jun-18	10:00	S-ROUTINE	Iron		Total Recv	0.75	mg/l		0.004	0.02
SS-11D	7-Jun-18	9:15	S-ROUTINE	Iron		Total Recv	0.9	mg/l		0.004	0.02
SS-07	7-Jun-18	14:00	QC-FB	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-11C	7-Jun-18	10:00	QC-FD	Lead		Dissolved	0.0005	mg/l		0.00003	0.0003
SS-01	7-Jun-18	17:15	S-ROUTINE	Lead		Dissolved	0.0002	mg/l	J	0.00003	0.0003
SS-05A	7-Jun-18	16:00	S-ROUTINE	Lead		Dissolved	0.0003	mg/l	J	0.00003	0.0003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Lead		Dissolved	0.0003	mg/l		0.00003	0.0003
SS-07	7-Jun-18	14:15	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-08	7-Jun-18	12:30	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Lead		Dissolved	0.0005	mg/l		0.00003	0.0003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Lead		Dissolved	0.0005	mg/l		0.00003	0.0003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-07	7-Jun-18	14:00	QC-FB	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-11C	7-Jun-18	10:00	QC-FD	Lead		Total Recv	0.0024	mg/l		0.00004	0.0003
SS-01	7-Jun-18	17:15	S-ROUTINE	Lead		Total Recv	0.001	mg/l		0.00004	0.0003
SS-05A	7-Jun-18	16:00	S-ROUTINE	Lead		Total Recv	0.0019	mg/l		0.00004	0.0003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Lead		Total Recv	0.0021	mg/l		0.00004	0.0003
SS-07	7-Jun-18	14:15	S-ROUTINE	Lead		Total Recv	0.0021	mg/l		0.00004	0.0003
SS-08	7-Jun-18	12:30	S-ROUTINE	Lead		Total Recv	0.0028	mg/l		0.00004	0.0003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Lead		Total Recv	0.0025	mg/l		0.00004	0.0003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Lead		Total Recv	0.0023	mg/l		0.00004	0.0003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Lead		Total Recv	0.0026	mg/l		0.00004	0.0003
SS-07	7-Jun-18	14:00	QC-FB	Magnesium		Dissolved	<0.01	mg/l		0.01	1
SS-11C	7-Jun-18	10:00	QC-FD	Magnesium		Dissolved	9	mg/l		0.1	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Magnesium		Dissolved	5	mg/l		0.1	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Magnesium		Dissolved	6	mg/l		0.1	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Magnesium		Dissolved	8	mg/l		0.1	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Magnesium		Dissolved	8	mg/l		0.1	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Magnesium		Dissolved	8	mg/l		0.1	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Magnesium		Dissolved	9	mg/l		0.1	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Magnesium		Dissolved	8	mg/l		0.1	1
SS-07	7-Jun-18	14:00	QC-FB	Magnesium		Total Recv	0.013	mg/l	J	0.009	1
SS-11C	7-Jun-18	10:00	QC-FD	Magnesium		Total Recv	9	mg/l		0.2	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Magnesium		Total Recv	5	mg/l		0.2	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Magnesium		Total Recv	6	mg/l		0.2	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Magnesium		Total Recv	7	mg/l		0.2	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Magnesium		Total Recv	7	mg/l		0.2	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Magnesium		Total Recv	8	mg/l		0.2	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Magnesium		Total Recv	7	mg/l		0.2	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Magnesium		Total Recv	9	mg/l		0.2	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Magnesium		Total Recv	8	mg/l		0.2	1
SS-07	7-Jun-18	14:00	QC-FB	Manganese		Dissolved	<0.0003	mg/l		0.0003	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Manganese		Dissolved	0.113	mg/l		0.0003	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	7-Jun-18	17:15	S-ROUTINE	Manganese		Dissolved	0.036	mg/l		0.0003	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Manganese		Dissolved	0.051	mg/l		0.0003	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Manganese		Dissolved	0.056	mg/l		0.0003	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Manganese		Dissolved	0.051	mg/l		0.0003	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Manganese		Dissolved	0.073	mg/l		0.0003	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Manganese		Dissolved	0.093	mg/l		0.0003	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Manganese		Dissolved	0.112	mg/l		0.0003	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Manganese		Dissolved	0.099	mg/l		0.0003	0.001
SS-07	7-Jun-18	14:00	QC-FB	Manganese		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Manganese		Total Recv	0.159	mg/l		0.0003	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Manganese		Total Recv	0.062	mg/l		0.0003	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Manganese		Total Recv	0.074	mg/l		0.0003	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Manganese		Total Recv	0.084	mg/l		0.0003	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Manganese		Total Recv	0.078	mg/l		0.0003	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Manganese		Total Recv	0.119	mg/l		0.0003	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Manganese		Total Recv	0.122	mg/l		0.0003	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Manganese		Total Recv	0.158	mg/l		0.0003	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Manganese		Total Recv	0.174	mg/l		0.0003	0.001
SS-07	7-Jun-18	14:00	QC-FB	Mercury		Dissolved	<0.000002	mg/l		0.000002	0.000005
SS-11C	7-Jun-18	10:00	QC-FD	Mercury		Dissolved	0.0000033	mg/l	J	0.000002	0.000005
SS-01	7-Jun-18	17:15	S-ROUTINE	Mercury		Dissolved	0.0000043	mg/l	J	0.000002	0.000005
SS-05A	7-Jun-18	16:00	S-ROUTINE	Mercury		Dissolved	0.0000034	mg/l	J	0.000002	0.000005
SS-06G	7-Jun-18	14:45	S-ROUTINE	Mercury		Dissolved	0.0000028	mg/l	J	0.000002	0.000005
SS-07	7-Jun-18	14:15	S-ROUTINE	Mercury		Dissolved	0.0000026	mg/l	J	0.000002	0.000005
SS-08	7-Jun-18	12:30	S-ROUTINE	Mercury		Dissolved	0.0000027	mg/l	J	0.000002	0.000005
SS-10A	7-Jun-18	11:15	S-ROUTINE	Mercury		Dissolved	0.0000026	mg/l	J	0.000002	0.000005
SS-11C	7-Jun-18	10:00	S-ROUTINE	Mercury		Dissolved	0.0000027	mg/l	J	0.000002	0.000005
SS-11D	7-Jun-18	9:15	S-ROUTINE	Mercury		Dissolved	0.0000026	mg/l	J	0.000002	0.000005
SS-07	7-Jun-18	14:00	QC-FB	Mercury		Total Recv	<0.000002	mg/l		0.000002	0.000005
SS-11C	7-Jun-18	10:00	QC-FD	Mercury		Total Recv	0.0000098	mg/l		0.000002	0.000005
SS-01	7-Jun-18	17:15	S-ROUTINE	Mercury		Total Recv	0.0000079	mg/l		0.000002	0.000005
SS-05A	7-Jun-18	16:00	S-ROUTINE	Mercury		Total Recv	0.0000101	mg/l		0.000002	0.000005
SS-06G	7-Jun-18	14:45	S-ROUTINE	Mercury		Total Recv	0.0000108	mg/l		0.000002	0.000005
SS-07	7-Jun-18	14:15	S-ROUTINE	Mercury		Total Recv	0.0000091	mg/l		0.000002	0.000005
SS-08	7-Jun-18	12:30	S-ROUTINE	Mercury		Total Recv	0.0000121	mg/l		0.000002	0.000005
SS-10A	7-Jun-18	11:15	S-ROUTINE	Mercury		Total Recv	0.0000109	mg/l		0.000002	0.000005
SS-11C	7-Jun-18	10:00	S-ROUTINE	Mercury		Total Recv	0.0000098	mg/l		0.000002	0.000005
SS-11D	7-Jun-18	9:15	S-ROUTINE	Mercury		Total Recv	0.0000117	mg/l		0.000002	0.000005
SS-07	7-Jun-18	14:00	QC-FB	Molybdenum		Dissolved	0.00005	mg/l	J	0.00002	0.005
SS-11C	7-Jun-18	10:00	QC-FD	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-01	7-Jun-18	17:15	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-05A	7-Jun-18	16:00	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-06G	7-Jun-18	14:45	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-07	7-Jun-18	14:15	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-08	7-Jun-18	12:30	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-10A	7-Jun-18	11:15	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-11C	7-Jun-18	10:00	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-11D	7-Jun-18	9:15	S-ROUTINE	Molybdenum		Dissolved	0.0044	mg/l	J	0.00002	0.005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	7-Jun-18	14:00	QC-FB	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-11C	7-Jun-18	10:00	QC-FD	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-01	7-Jun-18	17:15	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-05A	7-Jun-18	16:00	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-06G	7-Jun-18	14:45	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-07	7-Jun-18	14:15	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-08	7-Jun-18	12:30	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-10A	7-Jun-18	11:15	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-11C	7-Jun-18	10:00	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-11D	7-Jun-18	9:15	S-ROUTINE	Molybdenum		Total Recv	0.0045	mg/l	J	0.00002	0.005
SS-07	7-Jun-18	14:00	QC-FB	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-11C	7-Jun-18	10:00	QC-FD	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-01	7-Jun-18	17:15	S-ROUTINE	Nickel		Dissolved	0.0005	mg/l	J	0.0002	0.002
SS-05A	7-Jun-18	16:00	S-ROUTINE	Nickel		Dissolved	0.0005	mg/l	J	0.0002	0.002
SS-06G	7-Jun-18	14:45	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-07	7-Jun-18	14:15	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-08	7-Jun-18	12:30	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-10A	7-Jun-18	11:15	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-11C	7-Jun-18	10:00	S-ROUTINE	Nickel		Dissolved	0.0008	mg/l	J	0.0002	0.002
SS-11D	7-Jun-18	9:15	S-ROUTINE	Nickel		Dissolved	0.0009	mg/l	J	0.0002	0.002
SS-07	7-Jun-18	14:00	QC-FB	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-11C	7-Jun-18	10:00	QC-FD	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-01	7-Jun-18	17:15	S-ROUTINE	Nickel		Total Recv	0.0006	mg/l	J	0.0001	0.002
SS-05A	7-Jun-18	16:00	S-ROUTINE	Nickel		Total Recv	0.0006	mg/l	J	0.0001	0.002
SS-06G	7-Jun-18	14:45	S-ROUTINE	Nickel		Total Recv	0.0006	mg/l	J	0.0001	0.002
SS-07	7-Jun-18	14:15	S-ROUTINE	Nickel		Total Recv	0.0007	mg/l	J	0.0001	0.002
SS-08	7-Jun-18	12:30	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-10A	7-Jun-18	11:15	S-ROUTINE	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-11C	7-Jun-18	10:00	S-ROUTINE	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-11D	7-Jun-18	9:15	S-ROUTINE	Nickel		Total Recv	0.0014	mg/l	J	0.0001	0.002
SS-07	7-Jun-18	14:00	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02
SS-11C	7-Jun-18	10:00	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.27	mg/l		0.009	0.02
SS-01	7-Jun-18	17:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.13	mg/l		0.009	0.02
SS-05A	7-Jun-18	16:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.19	mg/l		0.009	0.02
SS-06G	7-Jun-18	14:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.31	mg/l		0.009	0.02
SS-07	7-Jun-18	14:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.54	mg/l		0.009	0.02
SS-08	7-Jun-18	12:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.32	mg/l		0.009	0.02
SS-10A	7-Jun-18	11:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.27	mg/l		0.009	0.02
SS-11C	7-Jun-18	10:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.27	mg/l		0.009	0.02
SS-11D	7-Jun-18	9:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.21	mg/l		0.009	0.02
SS-01	7-Jun-18	17:15	F-MSR/OBS	pH		NA	7.23	None			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	pH		NA	7.41	None			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	pH		NA	7.47	None			
SS-07	7-Jun-18	14:15	F-MSR/OBS	pH		NA	7.28	None			
SS-08	7-Jun-18	12:30	F-MSR/OBS	pH		NA	7.65	None			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	pH		NA	7.82	None			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	pH		NA	7.64	None			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	pH		NA	7.52	None			

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	7-Jun-18	14:00	QC-FB	Potassium		Dissolved	<0.06	mg/l		0.06	1
SS-11C	7-Jun-18	10:00	QC-FD	Potassium		Dissolved	4	mg/l		0.06	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Potassium		Dissolved	4	mg/l		0.06	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-07	7-Jun-18	14:00	QC-FB	Potassium		Total Recv	<0.06	mg/l		0.06	1
SS-11C	7-Jun-18	10:00	QC-FD	Potassium		Total Recv	4	mg/l		0.06	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Potassium		Total Recv	2	mg/l		0.06	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-07	7-Jun-18	14:00	QC-FB	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Selenium		Dissolved	0.00023	mg/l	J	0.00002	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Selenium		Dissolved	0.00014	mg/l	J	0.00002	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Selenium		Dissolved	0.00016	mg/l	J	0.00002	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Selenium		Dissolved	0.00015	mg/l	J	0.00002	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Selenium		Dissolved	0.00015	mg/l	J	0.00002	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Selenium		Dissolved	0.00016	mg/l	J	0.00002	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Selenium		Dissolved	0.00018	mg/l	J	0.00002	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Selenium		Dissolved	0.00026	mg/l	J	0.00002	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Selenium		Dissolved	0.00021	mg/l	J	0.00002	0.001
SS-07	7-Jun-18	14:00	QC-FB	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-11C	7-Jun-18	10:00	QC-FD	Selenium		Total Recv	0.0003	mg/l	J	0.00005	0.001
SS-01	7-Jun-18	17:15	S-ROUTINE	Selenium		Total Recv	0.00021	mg/l	J	0.00005	0.001
SS-05A	7-Jun-18	16:00	S-ROUTINE	Selenium		Total Recv	0.00019	mg/l	J	0.00005	0.001
SS-06G	7-Jun-18	14:45	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00005	0.001
SS-07	7-Jun-18	14:15	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00005	0.001
SS-08	7-Jun-18	12:30	S-ROUTINE	Selenium		Total Recv	0.00019	mg/l	J	0.00005	0.001
SS-10A	7-Jun-18	11:15	S-ROUTINE	Selenium		Total Recv	0.00016	mg/l	J	0.00005	0.001
SS-11C	7-Jun-18	10:00	S-ROUTINE	Selenium		Total Recv	0.00028	mg/l	J	0.00005	0.001
SS-11D	7-Jun-18	9:15	S-ROUTINE	Selenium		Total Recv	0.0002	mg/l	J	0.00005	0.001
SS-07	7-Jun-18	14:00	QC-FB	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11C	7-Jun-18	10:00	QC-FD	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-01	7-Jun-18	17:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-05A	7-Jun-18	16:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-06G	7-Jun-18	14:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-07	7-Jun-18	14:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-08	7-Jun-18	12:30	S-ROUTINE	Silver		Dissolved	0.00002	mg/l	J	0.00002	0.0002
SS-10A	7-Jun-18	11:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	7-Jun-18	10:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11D	7-Jun-18	9:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-07	7-Jun-18	14:00	QC-FB	Silver		Total Recv	0.000024	mg/l	J	0.000009	0.0002
SS-11C	7-Jun-18	10:00	QC-FD	Silver		Total Recv	0.000078	mg/l	J	0.000009	0.0002
SS-01	7-Jun-18	17:15	S-ROUTINE	Silver		Total Recv	0.000092	mg/l	J	0.000009	0.0002
SS-05A	7-Jun-18	16:00	S-ROUTINE	Silver		Total Recv	0.000089	mg/l	J	0.000009	0.0002
SS-06G	7-Jun-18	14:45	S-ROUTINE	Silver		Total Recv	0.00009	mg/l	J	0.000009	0.0002
SS-07	7-Jun-18	14:15	S-ROUTINE	Silver		Total Recv	0.000079	mg/l	J	0.000009	0.0002
SS-08	7-Jun-18	12:30	S-ROUTINE	Silver		Total Recv	0.0001	mg/l	J	0.000009	0.0002
SS-10A	7-Jun-18	11:15	S-ROUTINE	Silver		Total Recv	0.000092	mg/l	J	0.000009	0.0002
SS-11C	7-Jun-18	10:00	S-ROUTINE	Silver		Total Recv	0.000096	mg/l	J	0.000009	0.0002
SS-11D	7-Jun-18	9:15	S-ROUTINE	Silver		Total Recv	0.00009	mg/l	J	0.000009	0.0002
SS-07	7-Jun-18	14:00	QC-FB	Sodium		Dissolved	0.04	mg/l	J	0.02	1
SS-11C	7-Jun-18	10:00	QC-FD	Sodium		Dissolved	20	mg/l		0.02	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Sodium		Dissolved	8	mg/l		0.02	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Sodium		Dissolved	10	mg/l		0.02	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Sodium		Dissolved	12	mg/l		0.02	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Sodium		Dissolved	16	mg/l		0.02	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Sodium		Dissolved	17	mg/l		0.02	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Sodium		Dissolved	17	mg/l		0.02	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Sodium		Dissolved	20	mg/l		0.02	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Sodium		Dissolved	18	mg/l		0.02	1
SS-07	7-Jun-18	14:00	QC-FB	Sodium		Total Recv	<0.03	mg/l		0.03	1
SS-11C	7-Jun-18	10:00	QC-FD	Sodium		Total Recv	23	mg/l		0.03	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Sodium		Total Recv	8	mg/l		0.03	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Sodium		Total Recv	10	mg/l		0.03	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Sodium		Total Recv	13	mg/l		0.03	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Sodium		Total Recv	19	mg/l		0.03	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Sodium		Total Recv	19	mg/l		0.03	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Sodium		Total Recv	18	mg/l		0.03	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Sodium		Total Recv	23	mg/l		0.03	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Sodium		Total Recv	21	mg/l		0.03	1
SS-01	7-Jun-18	17:15	F-MSR/OBS	Specific conductance		NA	153.1	uS/cm			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	Specific conductance		NA	204.4	uS/cm			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	Specific conductance		NA	247	uS/cm			
SS-07	7-Jun-18	14:15	F-MSR/OBS	Specific conductance		NA	333.6	uS/cm			
SS-08	7-Jun-18	12:30	F-MSR/OBS	Specific conductance		NA	298.2	uS/cm			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	Specific conductance		NA	298.8	uS/cm			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	Specific conductance		NA	362.5	uS/cm			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	Specific conductance		NA	258.3	uS/cm			
SS-07	7-Jun-18	14:00	QC-FB	Sulfate		Total	<0.01	mg/l		0.01	1
SS-11C	7-Jun-18	10:00	QC-FD	Sulfate		Total	49	mg/l		0.01	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Sulfate		Total	10	mg/l		0.01	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Sulfate		Total	13	mg/l		0.01	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Sulfate		Total	31	mg/l		0.01	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Sulfate		Total	34	mg/l		0.01	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Sulfate		Total	38	mg/l		0.01	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Sulfate		Total	42	mg/l		0.01	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	7-Jun-18	10:00	S-ROUTINE	Sulfate		Total	49	mg/l		0.01	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Sulfate		Total	37	mg/l		0.01	1
SS-01	7-Jun-18	17:15	F-MSR/OBS	Temperature, water		NA	15.8	deg C			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	Temperature, water		NA	15.9	deg C			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	Temperature, water		NA	15.9	deg C			
SS-07	7-Jun-18	14:15	F-MSR/OBS	Temperature, water		NA	15.2	deg C			
SS-08	7-Jun-18	12:30	F-MSR/OBS	Temperature, water		NA	16.8	deg C			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	Temperature, water		NA	16.5	deg C			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	Temperature, water		NA	15.3	deg C			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	Temperature, water		NA	14.5	deg C			
SS-07	7-Jun-18	14:00	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.01	mg/l		0.01	0.05
SS-11C	7-Jun-18	10:00	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	0.65	mg/l		0.01	0.05
SS-01	7-Jun-18	17:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.56	mg/l		0.01	0.05
SS-05A	7-Jun-18	16:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.62	mg/l		0.01	0.05
SS-06G	7-Jun-18	14:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.72	mg/l		0.01	0.05
SS-07	7-Jun-18	14:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.94	mg/l		0.01	0.05
SS-08	7-Jun-18	12:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.76	mg/l		0.01	0.05
SS-10A	7-Jun-18	11:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.65	mg/l		0.01	0.05
SS-11C	7-Jun-18	10:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.66	mg/l		0.01	0.05
SS-11D	7-Jun-18	9:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.81	mg/l		0.01	0.05
SS-07	7-Jun-18	14:00	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	0.0024	mg/l	J	0.0006	0.003
SS-11C	7-Jun-18	10:00	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.151	mg/l		0.0006	0.003
SS-01	7-Jun-18	17:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.156	mg/l		0.0006	0.003
SS-05A	7-Jun-18	16:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.162	mg/l		0.0006	0.003
SS-06G	7-Jun-18	14:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.152	mg/l		0.0006	0.003
SS-07	7-Jun-18	14:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.155	mg/l		0.0006	0.003
SS-08	7-Jun-18	12:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.154	mg/l		0.0006	0.003
SS-10A	7-Jun-18	11:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.169	mg/l		0.0006	0.003
SS-11C	7-Jun-18	10:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.154	mg/l		0.0006	0.003
SS-11D	7-Jun-18	9:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.195	mg/l		0.0006	0.003
SS-07	7-Jun-18	14:00	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-11C	7-Jun-18	10:00	QC-FD	Total suspended solids		NA	8	mg/l	D	0.3	4
SS-01	7-Jun-18	17:15	S-ROUTINE	Total suspended solids		NA	6	mg/l	D	0.3	4
SS-05A	7-Jun-18	16:00	S-ROUTINE	Total suspended solids		NA	10	mg/l	D	0.3	4
SS-06G	7-Jun-18	14:45	S-ROUTINE	Total suspended solids		NA	8	mg/l	D	0.3	4
SS-07	7-Jun-18	14:15	S-ROUTINE	Total suspended solids		NA	8	mg/l	D	0.3	4
SS-08	7-Jun-18	12:30	S-ROUTINE	Total suspended solids		NA	10	mg/l	D	0.3	4
SS-10A	7-Jun-18	11:15	S-ROUTINE	Total suspended solids		NA	8	mg/l	D	0.3	4
SS-11C	7-Jun-18	10:00	S-ROUTINE	Total suspended solids		NA	7	mg/l	D	0.3	4
SS-11D	7-Jun-18	9:15	S-ROUTINE	Total suspended solids		NA	16	mg/l	D	0.3	4
SS-01	7-Jun-18	17:15	F-MSR/OBS	Turbidity		NA	6.1	NTU			
SS-05A	7-Jun-18	16:00	F-MSR/OBS	Turbidity		NA	6.8	NTU			
SS-06G	7-Jun-18	14:45	F-MSR/OBS	Turbidity		NA	6.9	NTU			
SS-07	7-Jun-18	14:15	F-MSR/OBS	Turbidity		NA	5.6	NTU			
SS-08	7-Jun-18	12:30	F-MSR/OBS	Turbidity		NA	7.1	NTU			
SS-10A	7-Jun-18	11:15	F-MSR/OBS	Turbidity		NA	7.3	NTU			
SS-11C	7-Jun-18	9:45	F-MSR/OBS	Turbidity		NA	7.1	NTU			
SS-11D	7-Jun-18	9:15	F-MSR/OBS	Turbidity		NA	10.2	NTU			

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	7-Jun-18	14:00	QC-FB	Uranium-238		Dissolved	<0.00001	mg/l		0.00001	0.0002
SS-11C	7-Jun-18	10:00	QC-FD	Uranium-238		Dissolved	0.0028	mg/l		0.00001	0.0002
SS-01	7-Jun-18	17:15	S-ROUTINE	Uranium-238		Dissolved	0.0011	mg/l		0.00001	0.0002
SS-05A	7-Jun-18	16:00	S-ROUTINE	Uranium-238		Dissolved	0.0016	mg/l		0.00001	0.0002
SS-06G	7-Jun-18	14:45	S-ROUTINE	Uranium-238		Dissolved	0.002	mg/l		0.00001	0.0002
SS-07	7-Jun-18	14:15	S-ROUTINE	Uranium-238		Dissolved	0.0019	mg/l		0.00001	0.0002
SS-08	7-Jun-18	12:30	S-ROUTINE	Uranium-238		Dissolved	0.0024	mg/l		0.00001	0.0002
SS-10A	7-Jun-18	11:15	S-ROUTINE	Uranium-238		Dissolved	0.0026	mg/l		0.00001	0.0002
SS-11C	7-Jun-18	10:00	S-ROUTINE	Uranium-238		Dissolved	0.0027	mg/l		0.00001	0.0002
SS-11D	7-Jun-18	9:15	S-ROUTINE	Uranium-238		Dissolved	0.0021	mg/l		0.00001	0.0002
SS-07	7-Jun-18	14:00	QC-FB	Uranium-238		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11C	7-Jun-18	10:00	QC-FD	Uranium-238		Total Recv	0.0028	mg/l		0.000009	0.0002
SS-01	7-Jun-18	17:15	S-ROUTINE	Uranium-238		Total Recv	0.0012	mg/l		0.000009	0.0002
SS-05A	7-Jun-18	16:00	S-ROUTINE	Uranium-238		Total Recv	0.0016	mg/l		0.000009	0.0002
SS-06G	7-Jun-18	14:45	S-ROUTINE	Uranium-238		Total Recv	0.002	mg/l		0.000009	0.0002
SS-07	7-Jun-18	14:15	S-ROUTINE	Uranium-238		Total Recv	0.0019	mg/l		0.000009	0.0002
SS-08	7-Jun-18	12:30	S-ROUTINE	Uranium-238		Total Recv	0.0026	mg/l		0.000009	0.0002
SS-10A	7-Jun-18	11:15	S-ROUTINE	Uranium-238		Total Recv	0.0025	mg/l		0.000009	0.0002
SS-11C	7-Jun-18	10:00	S-ROUTINE	Uranium-238		Total Recv	0.0028	mg/l		0.000009	0.0002
SS-11D	7-Jun-18	9:15	S-ROUTINE	Uranium-238		Total Recv	0.0023	mg/l		0.000009	0.0002
SS-07	7-Jun-18	14:00	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-11C	7-Jun-18	10:00	QC-FD	Vanadium		Dissolved	0.0021	mg/l	J	0.00007	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Vanadium		Dissolved	0.0021	mg/l	J	0.00007	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Vanadium		Dissolved	0.0021	mg/l	J	0.00007	0.1
SS-07	7-Jun-18	14:15	S-ROUTINE	Vanadium		Dissolved	0.0019	mg/l	J	0.00007	0.1
SS-08	7-Jun-18	12:30	S-ROUTINE	Vanadium		Dissolved	0.002	mg/l	J	0.00007	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Vanadium		Dissolved	0.002	mg/l	J	0.00007	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Vanadium		Dissolved	0.0019	mg/l	J	0.00007	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Vanadium		Dissolved	0.0021	mg/l	J	0.00007	0.1
SS-07	7-Jun-18	14:00	QC-FB	Vanadium		Total Recv	0.00007	mg/l	J	0.00002	0.1
SS-11C	7-Jun-18	10:00	QC-FD	Vanadium		Total Recv	0.0028	mg/l	J	0.00002	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Vanadium		Total Recv	0.0029	mg/l	J	0.00002	0.1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Vanadium		Total Recv	0.0031	mg/l	J	0.00002	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Vanadium		Total Recv	0.0028	mg/l	J	0.00002	0.1
SS-07	7-Jun-18	14:15	S-ROUTINE	Vanadium		Total Recv	0.0027	mg/l	J	0.00002	0.1
SS-08	7-Jun-18	12:30	S-ROUTINE	Vanadium		Total Recv	0.0028	mg/l	J	0.00002	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Vanadium		Total Recv	0.0027	mg/l	J	0.00002	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Vanadium		Total Recv	0.0027	mg/l	J	0.00002	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Vanadium		Total Recv	0.0034	mg/l	J	0.00002	0.1
SS-07	7-Jun-18	14:00	QC-FB	Zinc		Dissolved	0.012	mg/l		0.0003	0.008
SS-11C	7-Jun-18	10:00	QC-FD	Zinc		Dissolved	0.065	mg/l		0.0003	0.008
SS-01	7-Jun-18	17:15	S-ROUTINE	Zinc		Dissolved	0.015	mg/l	B	0.0003	0.008
SS-05A	7-Jun-18	16:00	S-ROUTINE	Zinc		Dissolved	0.018	mg/l	B	0.0003	0.008
SS-06G	7-Jun-18	14:45	S-ROUTINE	Zinc		Dissolved	0.081	mg/l		0.0003	0.008
SS-07	7-Jun-18	14:15	S-ROUTINE	Zinc		Dissolved	0.021	mg/l	B	0.0003	0.008
SS-08	7-Jun-18	12:30	S-ROUTINE	Zinc		Dissolved	0.027	mg/l	B	0.0003	0.008
SS-10A	7-Jun-18	11:15	S-ROUTINE	Zinc		Dissolved	0.046	mg/l		0.0003	0.008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	7-Jun-18	10:00	S-ROUTINE	Zinc		Dissolved	0.061	mg/l		0.0003	0.008
SS-11D	7-Jun-18	9:15	S-ROUTINE	Zinc		Dissolved	0.044	mg/l		0.0003	0.008
SS-07	7-Jun-18	14:00	QC-FB	Zinc		Total Recv	<0.001	mg/l		0.001	0.008
SS-11C	7-Jun-18	10:00	QC-FD	Zinc		Total Recv	0.087	mg/l		0.001	0.008
SS-01	7-Jun-18	17:15	S-ROUTINE	Zinc		Total Recv	0.008	mg/l		0.001	0.008
SS-05A	7-Jun-18	16:00	S-ROUTINE	Zinc		Total Recv	0.014	mg/l		0.001	0.008
SS-06G	7-Jun-18	14:45	S-ROUTINE	Zinc		Total Recv	0.02	mg/l		0.001	0.008
SS-07	7-Jun-18	14:15	S-ROUTINE	Zinc		Total Recv	0.029	mg/l		0.001	0.008
SS-08	7-Jun-18	12:30	S-ROUTINE	Zinc		Total Recv	0.047	mg/l		0.001	0.008
SS-10A	7-Jun-18	11:15	S-ROUTINE	Zinc		Total Recv	0.063	mg/l		0.001	0.008
SS-11C	7-Jun-18	10:00	S-ROUTINE	Zinc		Total Recv	0.088	mg/l		0.001	0.008
SS-11D	7-Jun-18	9:15	S-ROUTINE	Zinc		Total Recv	0.064	mg/l		0.001	0.008

Table C-3. Third quarter surface water results for the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	12-Sep-18	9:45	QC-FB	Alkalinity, total	as CaCO3	Total	2	mg/l	J	2	4
SS-15A-2	12-Sep-18	15:00	QC-FD	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-13	12-Sep-18	17:05	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-14	12-Sep-18	16:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-15B	12-Sep-18	13:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-15G	12-Sep-18	13:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-16B	12-Sep-18	11:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-17D	12-Sep-18	10:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-19	12-Sep-18	8:40	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-17D	12-Sep-18	9:45	QC-FB	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15A-2	12-Sep-18	15:00	QC-FD	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-13	12-Sep-18	17:05	S-ROUTINE	Aluminum		Dissolved	0.004	mg/l	J	0.003	0.009
SS-14	12-Sep-18	16:15	S-ROUTINE	Aluminum		Dissolved	0.005	mg/l	J	0.003	0.009
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15B	12-Sep-18	13:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15G	12-Sep-18	13:15	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-16B	12-Sep-18	11:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-17D	12-Sep-18	10:15	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-19	12-Sep-18	8:40	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-17D	12-Sep-18	9:45	QC-FB	Aluminum		Total Recv	<0.003	mg/l		0.003	0.009
SS-15A-2	12-Sep-18	15:00	QC-FD	Aluminum		Total Recv	0.03	mg/l		0.003	0.009
SS-13	12-Sep-18	17:05	S-ROUTINE	Aluminum		Total Recv	0.063	mg/l		0.003	0.009
SS-14	12-Sep-18	16:15	S-ROUTINE	Aluminum		Total Recv	0.041	mg/l		0.003	0.009
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Aluminum		Total Recv	0.029	mg/l		0.003	0.009
SS-15B	12-Sep-18	13:00	S-ROUTINE	Aluminum		Total Recv	0.03	mg/l		0.003	0.009
SS-15G	12-Sep-18	13:15	S-ROUTINE	Aluminum		Total Recv	0.022	mg/l		0.003	0.009
SS-16B	12-Sep-18	11:00	S-ROUTINE	Aluminum		Total Recv	0.049	mg/l		0.003	0.009
SS-17D	12-Sep-18	10:15	S-ROUTINE	Aluminum		Total Recv	0.098	mg/l		0.003	0.009
SS-19	12-Sep-18	8:40	S-ROUTINE	Aluminum		Total Recv	0.131	mg/l		0.003	0.009
SS-17D	12-Sep-18	9:45	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15A-2	12-Sep-18	15:00	QC-FD	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-13	12-Sep-18	17:05	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-14	12-Sep-18	16:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15B	12-Sep-18	13:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15G	12-Sep-18	13:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-16B	12-Sep-18	11:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-17D	12-Sep-18	10:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-19	12-Sep-18	8:40	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-17D	12-Sep-18	9:45	QC-FB	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-15A-2	12-Sep-18	15:00	QC-FD	Antimony		Dissolved	0.00032	mg/l	J	0.00009	0.0005
SS-13	12-Sep-18	17:05	S-ROUTINE	Antimony		Dissolved	0.00029	mg/l	J	0.00009	0.0005
SS-14	12-Sep-18	16:15	S-ROUTINE	Antimony		Dissolved	0.00029	mg/l	J	0.00009	0.0005
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Antimony		Dissolved	0.00028	mg/l	J	0.00009	0.0005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	12-Sep-18	13:00	S-ROUTINE	Antimony		Dissolved	0.00027	mg/l	J	0.00009	0.0005
SS-15G	12-Sep-18	13:15	S-ROUTINE	Antimony		Dissolved	0.0001	mg/l	J	0.00009	0.0005
SS-16B	12-Sep-18	11:00	S-ROUTINE	Antimony		Dissolved	0.00028	mg/l	J	0.00009	0.0005
SS-17D	12-Sep-18	10:15	S-ROUTINE	Antimony		Dissolved	0.0003	mg/l	J	0.00009	0.0005
SS-19	12-Sep-18	8:40	S-ROUTINE	Antimony		Dissolved	0.00027	mg/l	J	0.00009	0.0005
SS-17D	12-Sep-18	9:45	QC-FB	Antimony		Total Recv	0.0002	mg/l	J	0.0001	0.0005
SS-15A-2	12-Sep-18	15:00	QC-FD	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-13	12-Sep-18	17:05	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-14	12-Sep-18	16:15	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.0001	0.0005
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-15B	12-Sep-18	13:00	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-15G	12-Sep-18	13:15	S-ROUTINE	Antimony		Total Recv	0.0003	mg/l	J	0.0001	0.0005
SS-16B	12-Sep-18	11:00	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.0001	0.0005
SS-17D	12-Sep-18	10:15	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-19	12-Sep-18	8:40	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-17D	12-Sep-18	9:45	QC-FB	Arsenic		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Arsenic		Dissolved	0.007	mg/l		0.00004	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00004	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00004	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00004	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00004	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00004	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Arsenic		Dissolved	0.006	mg/l		0.00004	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Arsenic		Dissolved	0.007	mg/l		0.00004	0.001
SS-17D	12-Sep-18	9:45	QC-FB	Arsenic		Total Recv	0.00011	mg/l	J	0.00004	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Arsenic		Total Recv	0.007	mg/l		0.00004	0.001
SS-17D	12-Sep-18	9:45	QC-FB	Barium		Dissolved	0.0012	mg/l	J	0.00002	0.003
SS-15A-2	12-Sep-18	15:00	QC-FD	Barium		Dissolved	0.041	mg/l		0.00002	0.003
SS-13	12-Sep-18	17:05	S-ROUTINE	Barium		Dissolved	0.043	mg/l		0.00002	0.003
SS-14	12-Sep-18	16:15	S-ROUTINE	Barium		Dissolved	0.04	mg/l		0.00002	0.003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Barium		Dissolved	0.038	mg/l		0.00002	0.003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Barium		Dissolved	0.038	mg/l		0.00002	0.003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Barium		Dissolved	0.025	mg/l		0.00002	0.003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Barium		Dissolved	0.038	mg/l		0.00002	0.003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Barium		Dissolved	0.036	mg/l		0.00002	0.003
SS-19	12-Sep-18	8:40	S-ROUTINE	Barium		Dissolved	0.038	mg/l		0.00002	0.003
SS-17D	12-Sep-18	9:45	QC-FB	Barium		Total Recv	<0.00009	mg/l		0.00009	0.003
SS-15A-2	12-Sep-18	15:00	QC-FD	Barium		Total Recv	0.037	mg/l		0.00009	0.003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	12-Sep-18	17:05	S-ROUTINE	Barium		Total Recv	0.04	mg/l		0.00009	0.003
SS-14	12-Sep-18	16:15	S-ROUTINE	Barium		Total Recv	0.037	mg/l		0.00009	0.003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Barium		Total Recv	0.037	mg/l		0.00009	0.003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Barium		Total Recv	0.036	mg/l		0.00009	0.003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Barium		Total Recv	0.023	mg/l		0.00009	0.003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Barium		Total Recv	0.036	mg/l		0.00009	0.003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Barium		Total Recv	0.037	mg/l		0.00009	0.003
SS-19	12-Sep-18	8:40	S-ROUTINE	Barium		Total Recv	0.038	mg/l		0.00009	0.003
SS-17D	12-Sep-18	9:45	QC-FB	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15A-2	12-Sep-18	15:00	QC-FD	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-13	12-Sep-18	17:05	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-14	12-Sep-18	16:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15B	12-Sep-18	13:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15G	12-Sep-18	13:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-16B	12-Sep-18	11:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-17D	12-Sep-18	10:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-19	12-Sep-18	8:40	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-17D	12-Sep-18	9:45	QC-FB	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15A-2	12-Sep-18	15:00	QC-FD	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-13	12-Sep-18	17:05	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-14	12-Sep-18	16:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15B	12-Sep-18	13:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15G	12-Sep-18	13:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-16B	12-Sep-18	11:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-17D	12-Sep-18	10:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-19	12-Sep-18	8:40	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-17D	12-Sep-18	9:45	QC-FB	Bicarbonate	as HCO3	Total	<2	mg/l		2	4
SS-15A-2	12-Sep-18	15:00	QC-FD	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-13	12-Sep-18	17:05	S-ROUTINE	Bicarbonate	as HCO3	Total	150	mg/l		2	4
SS-14	12-Sep-18	16:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-15B	12-Sep-18	13:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-15G	12-Sep-18	13:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-16B	12-Sep-18	11:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-17D	12-Sep-18	10:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-19	12-Sep-18	8:40	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-17D	12-Sep-18	9:45	QC-FB	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-15A-2	12-Sep-18	15:00	QC-FD	Boron		Dissolved	0.072	mg/l	J	0.006	0.1
SS-13	12-Sep-18	17:05	S-ROUTINE	Boron		Dissolved	0.069	mg/l	J	0.006	0.1
SS-14	12-Sep-18	16:15	S-ROUTINE	Boron		Dissolved	0.069	mg/l	J	0.006	0.1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Boron		Dissolved	0.071	mg/l	J	0.006	0.1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Boron		Dissolved	0.061	mg/l	J	0.006	0.1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Boron		Dissolved	0.007	mg/l	J	0.006	0.1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Boron		Dissolved	0.057	mg/l	J	0.006	0.1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Boron		Dissolved	0.057	mg/l	J	0.006	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-19	12-Sep-18	8:40	S-ROUTINE	Boron		Dissolved	0.057	mg/l	J	0.006	0.1
SS-17D	12-Sep-18	9:45	QC-FB	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-15A-2	12-Sep-18	15:00	QC-FD	Boron		Total Recv	0.076	mg/l	J	0.005	0.1
SS-13	12-Sep-18	17:05	S-ROUTINE	Boron		Total Recv	0.07	mg/l	J	0.005	0.1
SS-14	12-Sep-18	16:15	S-ROUTINE	Boron		Total Recv	0.075	mg/l	J	0.005	0.1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Boron		Total Recv	0.078	mg/l	J	0.005	0.1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Boron		Total Recv	0.061	mg/l	J	0.005	0.1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Boron		Total Recv	0.007	mg/l	J	0.005	0.1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Boron		Total Recv	0.063	mg/l	J	0.005	0.1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Boron		Total Recv	0.057	mg/l	J	0.005	0.1
SS-19	12-Sep-18	8:40	S-ROUTINE	Boron		Total Recv	0.057	mg/l	J	0.005	0.1
SS-17D	12-Sep-18	9:45	QC-FB	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-15A-2	12-Sep-18	15:00	QC-FD	Cadmium		Dissolved	0.00016	mg/l		0.00003	0.00003
SS-13	12-Sep-18	17:05	S-ROUTINE	Cadmium		Dissolved	0.00016	mg/l		0.00003	0.00003
SS-14	12-Sep-18	16:15	S-ROUTINE	Cadmium		Dissolved	0.00015	mg/l		0.00003	0.00003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cadmium		Dissolved	0.00014	mg/l		0.00003	0.00003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cadmium		Dissolved	0.00013	mg/l		0.00003	0.00003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cadmium		Dissolved	0.00013	mg/l		0.00003	0.00003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cadmium		Dissolved	0.00022	mg/l		0.00003	0.00003
SS-19	12-Sep-18	8:40	S-ROUTINE	Cadmium		Dissolved	0.00023	mg/l		0.00003	0.00003
SS-17D	12-Sep-18	9:45	QC-FB	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-15A-2	12-Sep-18	15:00	QC-FD	Cadmium		Total Recv	0.00016	mg/l		0.00003	0.00003
SS-13	12-Sep-18	17:05	S-ROUTINE	Cadmium		Total Recv	0.00019	mg/l		0.00003	0.00003
SS-14	12-Sep-18	16:15	S-ROUTINE	Cadmium		Total Recv	0.00015	mg/l		0.00003	0.00003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cadmium		Total Recv	0.00015	mg/l		0.00003	0.00003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cadmium		Total Recv	0.00014	mg/l		0.00003	0.00003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cadmium		Total Recv	0.00014	mg/l		0.00003	0.00003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cadmium		Total Recv	0.00028	mg/l		0.00003	0.00003
SS-19	12-Sep-18	8:40	S-ROUTINE	Cadmium		Total Recv	0.00027	mg/l		0.00003	0.00003
SS-17D	12-Sep-18	9:45	QC-FB	Calcium		Dissolved	<0.07	mg/l		0.07	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Calcium		Dissolved	62	mg/l		0.07	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Calcium		Dissolved	61	mg/l		0.07	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Calcium		Dissolved	61	mg/l		0.07	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Calcium		Dissolved	62	mg/l		0.07	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Calcium		Dissolved	57	mg/l		0.07	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Calcium		Dissolved	38	mg/l		0.07	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Calcium		Dissolved	58	mg/l		0.07	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Calcium		Dissolved	58	mg/l		0.07	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Calcium		Dissolved	57	mg/l		0.07	1
SS-17D	12-Sep-18	9:45	QC-FB	Calcium		Total Recv	<0.09	mg/l		0.09	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Calcium		Total Recv	63	mg/l		0.09	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Calcium		Total Recv	64	mg/l		0.09	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Calcium		Total Recv	61	mg/l		0.09	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Calcium		Total Recv	62	mg/l		0.09	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Calcium		Total Recv	58	mg/l		0.09	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	12-Sep-18	13:15	S-ROUTINE	Calcium		Total Recv	39	mg/l		0.09	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Calcium		Total Recv	56	mg/l		0.09	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Calcium		Total Recv	57	mg/l		0.09	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Calcium		Total Recv	57	mg/l		0.09	1
SS-17D	12-Sep-18	9:45	QC-FB	Chloride		Total	<0.009	mg/l		0.009	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Chloride		Total	52	mg/l		0.009	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Chloride		Total	52	mg/l		0.009	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Chloride		Total	53	mg/l		0.009	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Chloride		Total	52	mg/l		0.009	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Chloride		Total	42	mg/l		0.009	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Chloride		Total	0.7	mg/l	J	0.009	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Chloride		Total	41	mg/l		0.009	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Chloride		Total	41	mg/l		0.009	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Chloride		Total	40	mg/l		0.009	1
SS-17D	12-Sep-18	9:45	QC-FB	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15A-2	12-Sep-18	15:00	QC-FD	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-13	12-Sep-18	17:05	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-14	12-Sep-18	16:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15B	12-Sep-18	13:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15G	12-Sep-18	13:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-16B	12-Sep-18	11:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-17D	12-Sep-18	10:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-19	12-Sep-18	8:40	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-17D	12-Sep-18	9:45	QC-FB	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-15A-2	12-Sep-18	15:00	QC-FD	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-13	12-Sep-18	17:05	S-ROUTINE	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-14	12-Sep-18	16:15	S-ROUTINE	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-15B	12-Sep-18	13:00	S-ROUTINE	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-15G	12-Sep-18	13:15	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-16B	12-Sep-18	11:00	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-17D	12-Sep-18	10:15	S-ROUTINE	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-19	12-Sep-18	8:40	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-17D	12-Sep-18	9:45	QC-FB	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15A-2	12-Sep-18	15:00	QC-FD	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-13	12-Sep-18	17:05	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-14	12-Sep-18	16:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cobalt		Dissolved	0.00022	mg/l	J	0.00009	0.01
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cobalt		Dissolved	0.00095	mg/l	J	0.00009	0.01
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cobalt		Dissolved	0.00021	mg/l	J	0.00009	0.01
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cobalt		Dissolved	0.00023	mg/l	J	0.00009	0.01
SS-19	12-Sep-18	8:40	S-ROUTINE	Cobalt		Dissolved	0.00024	mg/l	J	0.00009	0.01
SS-17D	12-Sep-18	9:45	QC-FB	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-15A-2	12-Sep-18	15:00	QC-FD	Cobalt		Total Recv	0.00009	mg/l	J	0.00006	0.01
SS-13	12-Sep-18	17:05	S-ROUTINE	Cobalt		Total Recv	0.0001	mg/l	J	0.00006	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	12-Sep-18	16:15	S-ROUTINE	Cobalt		Total Recv	0.0001	mg/l	J	0.00006	0.01
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cobalt		Total Recv	0.00008	mg/l	J	0.00006	0.01
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cobalt		Total Recv	0.0003	mg/l	J	0.00006	0.01
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cobalt		Total Recv	0.0011	mg/l	J	0.00006	0.01
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cobalt		Total Recv	0.00028	mg/l	J	0.00006	0.01
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cobalt		Total Recv	0.00034	mg/l	J	0.00006	0.01
SS-19	12-Sep-18	8:40	S-ROUTINE	Cobalt		Total Recv	0.00036	mg/l	J	0.00006	0.01
SS-17D	12-Sep-18	9:45	QC-FB	Copper		Dissolved	<0.0001	mg/l		0.0001	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Copper		Dissolved	0.014	mg/l		0.0001	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Copper		Dissolved	0.016	mg/l		0.0001	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Copper		Dissolved	0.014	mg/l		0.0001	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Copper		Dissolved	0.014	mg/l		0.0001	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Copper		Dissolved	0.011	mg/l		0.0001	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Copper		Dissolved	0.0006	mg/l	J	0.0001	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Copper		Dissolved	0.011	mg/l		0.0001	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Copper		Dissolved	0.012	mg/l		0.0001	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Copper		Dissolved	0.012	mg/l		0.0001	0.001
SS-17D	12-Sep-18	9:45	QC-FB	Copper		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Copper		Total Recv	0.018	mg/l		0.0002	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Copper		Total Recv	0.013	mg/l		0.0002	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Copper		Total Recv	0.0008	mg/l	J	0.0002	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Copper		Total Recv	0.013	mg/l		0.0002	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-13	12-Sep-18	17:05	F-MSR/OBS	Dissolved oxygen (DO)		NA	9	mg/l			
SS-14	12-Sep-18	16:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.9	mg/l			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.3	mg/l			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.1	mg/l			
SS-15G	12-Sep-18	13:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.2	mg/l			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.2	mg/l			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.9	mg/l			
SS-19	12-Sep-18	8:40	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.6	mg/l			
SS-13	12-Sep-18	17:05	F-MSR/OBS	Dissolved oxygen saturation		NA	103	%			
SS-14	12-Sep-18	16:15	F-MSR/OBS	Dissolved oxygen saturation		NA	114	%			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	Dissolved oxygen saturation		NA	110	%			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	Dissolved oxygen saturation		NA	101	%			
SS-15G	12-Sep-18	13:15	F-MSR/OBS	Dissolved oxygen saturation		NA	97	%			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	Dissolved oxygen saturation		NA	100	%			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	Dissolved oxygen saturation		NA	98	%			
SS-19	12-Sep-18	8:40	F-MSR/OBS	Dissolved oxygen saturation		NA	94	%			
SS-13	12-Sep-18	17:05	F-MSR/OBS	Flow		NA	25.42	ft3/sec			
SS-14	12-Sep-18	16:15	F-MSR/OBS	Flow		NA	27.91	ft3/sec			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	Flow		NA	28.56	ft3/sec			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	Flow		NA	36.63	ft3/sec			

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	12-Sep-18	13:15	F-MSR/OBS	Flow		NA	8.26	ft3/sec			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	Flow		NA	40.33	ft3/sec			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	Flow		NA	37.9	ft3/sec			
SS-19	12-Sep-18	8:40	F-MSR/OBS	Flow		NA	37.67	ft3/sec			
SS-17D	12-Sep-18	9:45	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1	mg/l		1	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	211	mg/l		1	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	221	mg/l		1	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	208	mg/l		1	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	213	mg/l		1	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	200	mg/l		1	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	130	mg/l		1	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	199	mg/l		1	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	194	mg/l		1	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	195	mg/l		1	1
SS-17D	12-Sep-18	9:45	QC-FB	Iron		Dissolved	<0.002	mg/l		0.002	0.02
SS-15A-2	12-Sep-18	15:00	QC-FD	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-13	12-Sep-18	17:05	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-14	12-Sep-18	16:15	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-15B	12-Sep-18	13:00	S-ROUTINE	Iron		Dissolved	0.02	mg/l		0.002	0.02
SS-15G	12-Sep-18	13:15	S-ROUTINE	Iron		Dissolved	0.008	mg/l	J	0.002	0.02
SS-16B	12-Sep-18	11:00	S-ROUTINE	Iron		Dissolved	0.02	mg/l		0.002	0.02
SS-17D	12-Sep-18	10:15	S-ROUTINE	Iron		Dissolved	0.02	mg/l		0.002	0.02
SS-19	12-Sep-18	8:40	S-ROUTINE	Iron		Dissolved	0.02	mg/l		0.002	0.02
SS-17D	12-Sep-18	9:45	QC-FB	Iron		Total Recv	<0.006	mg/l		0.006	0.02
SS-15A-2	12-Sep-18	15:00	QC-FD	Iron		Total Recv	0.08	mg/l		0.004	0.02
SS-13	12-Sep-18	17:05	S-ROUTINE	Iron		Total Recv	0.11	mg/l		0.004	0.02
SS-14	12-Sep-18	16:15	S-ROUTINE	Iron		Total Recv	0.1	mg/l		0.004	0.02
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Iron		Total Recv	0.07	mg/l		0.004	0.02
SS-15B	12-Sep-18	13:00	S-ROUTINE	Iron		Total Recv	0.07	mg/l		0.004	0.02
SS-15G	12-Sep-18	13:15	S-ROUTINE	Iron		Total Recv	0.03	mg/l		0.004	0.02
SS-16B	12-Sep-18	11:00	S-ROUTINE	Iron		Total Recv	0.09	mg/l		0.004	0.02
SS-17D	12-Sep-18	10:15	S-ROUTINE	Iron		Total Recv	0.17	mg/l		0.004	0.02
SS-19	12-Sep-18	8:40	S-ROUTINE	Iron		Total Recv	0.19	mg/l		0.004	0.02
SS-17D	12-Sep-18	9:45	QC-FB	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-15A-2	12-Sep-18	15:00	QC-FD	Lead		Dissolved	0.00009	mg/l	J	0.00003	0.0003
SS-13	12-Sep-18	17:05	S-ROUTINE	Lead		Dissolved	0.00011	mg/l	J	0.00003	0.0003
SS-14	12-Sep-18	16:15	S-ROUTINE	Lead		Dissolved	0.00011	mg/l	J	0.00003	0.0003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Lead		Dissolved	0.00008	mg/l	J	0.00003	0.0003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Lead		Dissolved	0.00004	mg/l	J	0.00003	0.0003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Lead		Dissolved	0.00006	mg/l	J	0.00003	0.0003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Lead		Dissolved	0.00005	mg/l	J	0.00003	0.0003
SS-19	12-Sep-18	8:40	S-ROUTINE	Lead		Dissolved	0.00007	mg/l	J	0.00003	0.0003
SS-17D	12-Sep-18	9:45	QC-FB	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-15A-2	12-Sep-18	15:00	QC-FD	Lead		Total Recv	0.0004	mg/l		0.00004	0.0003
SS-13	12-Sep-18	17:05	S-ROUTINE	Lead		Total Recv	0.0007	mg/l		0.00004	0.0003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	12-Sep-18	16:15	S-ROUTINE	Lead		Total Recv	0.0005	mg/l		0.00004	0.0003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Lead		Total Recv	0.0004	mg/l		0.00004	0.0003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Lead		Total Recv	0.0004	mg/l		0.00004	0.0003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Lead		Total Recv	0.0005	mg/l		0.00004	0.0003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Lead		Total Recv	0.0009	mg/l		0.00004	0.0003
SS-19	12-Sep-18	8:40	S-ROUTINE	Lead		Total Recv	0.0011	mg/l		0.00004	0.0003
SS-17D	12-Sep-18	9:45	QC-FB	Magnesium		Dissolved	<0.01	mg/l		0.01	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Magnesium		Dissolved	14	mg/l		0.1	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.1	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Magnesium		Dissolved	13	mg/l		0.1	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Magnesium		Dissolved	13	mg/l		0.1	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.1	1
SS-17D	12-Sep-18	9:45	QC-FB	Magnesium		Total Recv	<0.009	mg/l		0.009	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Magnesium		Total Recv	14	mg/l		0.2	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Magnesium		Total Recv	13	mg/l		0.2	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Magnesium		Total Recv	8	mg/l		0.2	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.2	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.2	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Magnesium		Total Recv	13	mg/l		0.2	1
SS-17D	12-Sep-18	9:45	QC-FB	Manganese		Dissolved	<0.0003	mg/l		0.0003	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Manganese		Dissolved	0.013	mg/l		0.0003	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Manganese		Dissolved	0.034	mg/l		0.0003	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Manganese		Dissolved	0.027	mg/l		0.0003	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Manganese		Dissolved	0.013	mg/l		0.0003	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Manganese		Dissolved	0.013	mg/l		0.0003	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Manganese		Dissolved	0.001	mg/l		0.0003	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Manganese		Dissolved	0.02	mg/l		0.0003	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Manganese		Dissolved	0.027	mg/l		0.0003	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Manganese		Dissolved	0.029	mg/l		0.0003	0.001
SS-17D	12-Sep-18	9:45	QC-FB	Manganese		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Manganese		Total Recv	0.021	mg/l		0.0003	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Manganese		Total Recv	0.052	mg/l		0.0003	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Manganese		Total Recv	0.034	mg/l		0.0003	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Manganese		Total Recv	0.021	mg/l		0.0003	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Manganese		Total Recv	0.021	mg/l		0.0003	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Manganese		Total Recv	0.003	mg/l		0.0003	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Manganese		Total Recv	0.028	mg/l		0.0003	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Manganese		Total Recv	0.051	mg/l		0.0003	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Manganese		Total Recv	0.062	mg/l		0.0003	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	12-Sep-18	9:45	QC-FB	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-15A-2	12-Sep-18	15:00	QC-FD	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-13	12-Sep-18	17:05	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-14	12-Sep-18	16:15	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Mercury		Dissolved	0.0000011	mg/l	J	0.000001	0.000005
SS-15B	12-Sep-18	13:00	S-ROUTINE	Mercury		Dissolved	0.0000013	mg/l	J	0.000001	0.000005
SS-15G	12-Sep-18	13:15	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-16B	12-Sep-18	11:00	S-ROUTINE	Mercury		Dissolved	0.0000015	mg/l	J	0.000001	0.000005
SS-17D	12-Sep-18	10:15	S-ROUTINE	Mercury		Dissolved	0.0000012	mg/l	J	0.000001	0.000005
SS-19	12-Sep-18	8:40	S-ROUTINE	Mercury		Dissolved	0.0000024	mg/l	J	0.000001	0.000005
SS-17D	12-Sep-18	9:45	QC-FB	Mercury		Total Recv	<0.000001	mg/l		0.000001	0.000005
SS-15A-2	12-Sep-18	15:00	QC-FD	Mercury		Total Recv	0.0000046	mg/l	J	0.000001	0.000005
SS-13	12-Sep-18	17:05	S-ROUTINE	Mercury		Total Recv	0.0000047	mg/l	J	0.000001	0.000005
SS-14	12-Sep-18	16:15	S-ROUTINE	Mercury		Total Recv	0.0000036	mg/l	J	0.000001	0.000005
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Mercury		Total Recv	0.0000039	mg/l	J	0.000001	0.000005
SS-15B	12-Sep-18	13:00	S-ROUTINE	Mercury		Total Recv	0.0000035	mg/l	J	0.000001	0.000005
SS-15G	12-Sep-18	13:15	S-ROUTINE	Mercury		Total Recv	<0.000001	mg/l		0.000001	0.000005
SS-16B	12-Sep-18	11:00	S-ROUTINE	Mercury		Total Recv	0.0000039	mg/l	J	0.000001	0.000005
SS-17D	12-Sep-18	10:15	S-ROUTINE	Mercury		Total Recv	0.0000083	mg/l		0.000001	0.000005
SS-19	12-Sep-18	8:40	S-ROUTINE	Mercury		Total Recv	0.0000088	mg/l		0.000001	0.000005
SS-17D	12-Sep-18	9:45	QC-FB	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-15A-2	12-Sep-18	15:00	QC-FD	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-13	12-Sep-18	17:05	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-14	12-Sep-18	16:15	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-15B	12-Sep-18	13:00	S-ROUTINE	Molybdenum		Dissolved	0.0044	mg/l	J	0.00002	0.005
SS-15G	12-Sep-18	13:15	S-ROUTINE	Molybdenum		Dissolved	0.00027	mg/l	J	0.00002	0.005
SS-16B	12-Sep-18	11:00	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-17D	12-Sep-18	10:15	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-19	12-Sep-18	8:40	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-17D	12-Sep-18	9:45	QC-FB	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-15A-2	12-Sep-18	15:00	QC-FD	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-13	12-Sep-18	17:05	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-14	12-Sep-18	16:15	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-15B	12-Sep-18	13:00	S-ROUTINE	Molybdenum		Total Recv	0.0046	mg/l	J	0.00002	0.005
SS-15G	12-Sep-18	13:15	S-ROUTINE	Molybdenum		Total Recv	0.0003	mg/l	J	0.00002	0.005
SS-16B	12-Sep-18	11:00	S-ROUTINE	Molybdenum		Total Recv	0.0045	mg/l	J	0.00002	0.005
SS-17D	12-Sep-18	10:15	S-ROUTINE	Molybdenum		Total Recv	0.0044	mg/l	J	0.00002	0.005
SS-19	12-Sep-18	8:40	S-ROUTINE	Molybdenum		Total Recv	0.0044	mg/l	J	0.00002	0.005
SS-17D	12-Sep-18	9:45	QC-FB	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-15A-2	12-Sep-18	15:00	QC-FD	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-13	12-Sep-18	17:05	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-14	12-Sep-18	16:15	S-ROUTINE	Nickel		Dissolved	0.0008	mg/l	J	0.0002	0.002
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-15B	12-Sep-18	13:00	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-15G	12-Sep-18	13:15	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	12-Sep-18	11:00	S-ROUTINE	Nickel		Dissolved	0.0006	mg/l	J	0.0002	0.002
SS-17D	12-Sep-18	10:15	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-19	12-Sep-18	8:40	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-17D	12-Sep-18	9:45	QC-FB	Nickel		Total Recv	0.0004	mg/l	J	0.0001	0.002
SS-15A-2	12-Sep-18	15:00	QC-FD	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-13	12-Sep-18	17:05	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-14	12-Sep-18	16:15	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-15B	12-Sep-18	13:00	S-ROUTINE	Nickel		Total Recv	0.0007	mg/l	J	0.0001	0.002
SS-15G	12-Sep-18	13:15	S-ROUTINE	Nickel		Total Recv	0.0002	mg/l	J	0.0001	0.002
SS-16B	12-Sep-18	11:00	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-17D	12-Sep-18	10:15	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-19	12-Sep-18	8:40	S-ROUTINE	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-17D	12-Sep-18	9:45	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02
SS-15A-2	12-Sep-18	15:00	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.79	mg/l		0.009	0.02
SS-13	12-Sep-18	17:05	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.56	mg/l		0.009	0.02
SS-14	12-Sep-18	16:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.54	mg/l		0.009	0.02
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.79	mg/l		0.009	0.02
SS-15B	12-Sep-18	13:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.51	mg/l		0.009	0.02
SS-15G	12-Sep-18	13:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02
SS-16B	12-Sep-18	11:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.42	mg/l		0.009	0.02
SS-17D	12-Sep-18	10:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.41	mg/l		0.009	0.02
SS-19	12-Sep-18	8:40	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.55	mg/l		0.009	0.02
SS-13	12-Sep-18	17:05	F-MSR/OBS	pH		NA	8.36	None			
SS-14	12-Sep-18	16:15	F-MSR/OBS	pH		NA	8.53	None			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	pH		NA	8.76	None			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	pH		NA	8.55	None			
SS-15G	12-Sep-18	13:15	F-MSR/OBS	pH		NA	8.44	None			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	pH		NA	8.41	None			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	pH		NA	8.31	None			
SS-19	12-Sep-18	8:40	F-MSR/OBS	pH		NA	8.06	None			
SS-17D	12-Sep-18	9:45	QC-FB	Potassium		Dissolved	<0.06	mg/l		0.06	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Potassium		Dissolved	6	mg/l		0.06	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Potassium		Dissolved	1	mg/l		0.06	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-17D	12-Sep-18	9:45	QC-FB	Potassium		Total Recv	<0.06	mg/l		0.06	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Potassium		Total Recv	7	mg/l		0.06	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.06	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	12-Sep-18	13:15	S-ROUTINE	Potassium		Total Recv	2	mg/l		0.06	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-17D	12-Sep-18	9:45	QC-FB	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Selenium		Dissolved	0.00048	mg/l	J	0.00002	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Selenium		Dissolved	0.00052	mg/l	J	0.00002	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Selenium		Dissolved	0.00049	mg/l	J	0.00002	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Selenium		Dissolved	0.00048	mg/l	J	0.00002	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Selenium		Dissolved	0.00042	mg/l	J	0.00002	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Selenium		Dissolved	0.00045	mg/l	J	0.00002	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Selenium		Dissolved	0.0004	mg/l	J	0.00002	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Selenium		Dissolved	0.00046	mg/l	J	0.00002	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Selenium		Dissolved	0.00039	mg/l	J	0.00002	0.001
SS-17D	12-Sep-18	9:45	QC-FB	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-15A-2	12-Sep-18	15:00	QC-FD	Selenium		Total Recv	0.00034	mg/l	J	0.00005	0.001
SS-13	12-Sep-18	17:05	S-ROUTINE	Selenium		Total Recv	0.00042	mg/l	J	0.00005	0.001
SS-14	12-Sep-18	16:15	S-ROUTINE	Selenium		Total Recv	0.00037	mg/l	J	0.00005	0.001
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Selenium		Total Recv	0.00037	mg/l	J	0.00005	0.001
SS-15B	12-Sep-18	13:00	S-ROUTINE	Selenium		Total Recv	0.00038	mg/l	J	0.00005	0.001
SS-15G	12-Sep-18	13:15	S-ROUTINE	Selenium		Total Recv	0.00045	mg/l	J	0.00005	0.001
SS-16B	12-Sep-18	11:00	S-ROUTINE	Selenium		Total Recv	0.00031	mg/l	J	0.00005	0.001
SS-17D	12-Sep-18	10:15	S-ROUTINE	Selenium		Total Recv	0.00032	mg/l	J	0.00005	0.001
SS-19	12-Sep-18	8:40	S-ROUTINE	Selenium		Total Recv	0.00033	mg/l	J	0.00005	0.001
SS-17D	12-Sep-18	9:45	QC-FB	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15A-2	12-Sep-18	15:00	QC-FD	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-13	12-Sep-18	17:05	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-14	12-Sep-18	16:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15B	12-Sep-18	13:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15G	12-Sep-18	13:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-16B	12-Sep-18	11:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-17D	12-Sep-18	10:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-19	12-Sep-18	8:40	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-17D	12-Sep-18	9:45	QC-FB	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15A-2	12-Sep-18	15:00	QC-FD	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-13	12-Sep-18	17:05	S-ROUTINE	Silver		Total Recv	0.00001	mg/l	J	0.000009	0.0002
SS-14	12-Sep-18	16:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15B	12-Sep-18	13:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15G	12-Sep-18	13:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-16B	12-Sep-18	11:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-17D	12-Sep-18	10:15	S-ROUTINE	Silver		Total Recv	0.000013	mg/l	J	0.000009	0.0002
SS-19	12-Sep-18	8:40	S-ROUTINE	Silver		Total Recv	0.000018	mg/l	J	0.000009	0.0002
SS-17D	12-Sep-18	9:45	QC-FB	Sodium		Dissolved	0.03	mg/l	J	0.02	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Sodium		Dissolved	36	mg/l		0.02	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Sodium		Dissolved	35	mg/l		0.02	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	12-Sep-18	16:15	S-ROUTINE	Sodium		Dissolved	36	mg/l		0.02	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Sodium		Dissolved	36	mg/l		0.02	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Sodium		Dissolved	30	mg/l		0.02	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Sodium		Dissolved	4	mg/l		0.02	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Sodium		Dissolved	28	mg/l		0.02	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Sodium		Dissolved	29	mg/l		0.02	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Sodium		Dissolved	30	mg/l		0.02	1
SS-17D	12-Sep-18	9:45	QC-FB	Sodium		Total Recv	<0.03	mg/l		0.03	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Sodium		Total Recv	38	mg/l		0.03	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Sodium		Total Recv	37	mg/l		0.03	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Sodium		Total Recv	37	mg/l		0.03	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Sodium		Total Recv	38	mg/l		0.03	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Sodium		Total Recv	31	mg/l		0.03	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Sodium		Total Recv	4	mg/l		0.03	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Sodium		Total Recv	30	mg/l		0.03	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Sodium		Total Recv	30	mg/l		0.03	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Sodium		Total Recv	29	mg/l		0.03	1
SS-13	12-Sep-18	17:05	F-MSR/OBS	Specific conductance		NA	619	uS/cm			
SS-14	12-Sep-18	16:15	F-MSR/OBS	Specific conductance		NA	476.5	uS/cm			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	Specific conductance		NA	512.4	uS/cm			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	Specific conductance		NA	460.6	uS/cm			
SS-15G	12-Sep-18	13:15	F-MSR/OBS	Specific conductance		NA	227.4	uS/cm			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	Specific conductance		NA	463.3	uS/cm			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	Specific conductance		NA	466.7	uS/cm			
SS-19	12-Sep-18	8:40	F-MSR/OBS	Specific conductance		NA	468.2	uS/cm			
SS-17D	12-Sep-18	9:45	QC-FB	Sulfate		Total	0.02	mg/l	J	0.01	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Sulfate		Total	111	mg/l		0.01	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Sulfate		Total	109	mg/l		0.01	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Sulfate		Total	108	mg/l		0.01	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Sulfate		Total	111	mg/l		0.01	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Sulfate		Total	95	mg/l		0.01	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Sulfate		Total	25	mg/l		0.01	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Sulfate		Total	97	mg/l		0.01	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Sulfate		Total	96	mg/l		0.01	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Sulfate		Total	97	mg/l		0.01	1
SS-13	12-Sep-18	17:05	F-MSR/OBS	Temperature, water		NA	12.5	deg C			
SS-14	12-Sep-18	16:15	F-MSR/OBS	Temperature, water		NA	12.9	deg C			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	Temperature, water		NA	13.8	deg C			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	Temperature, water		NA	11.9	deg C			
SS-15G	12-Sep-18	13:15	F-MSR/OBS	Temperature, water		NA	9.5	deg C			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	Temperature, water		NA	11.3	deg C			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	Temperature, water		NA	11.4	deg C			
SS-19	12-Sep-18	8:40	F-MSR/OBS	Temperature, water		NA	11.1	deg C			
SS-17D	12-Sep-18	9:45	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.03	mg/l		0.03	0.05
SS-15A-2	12-Sep-18	15:00	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	1.12	mg/l		0.03	0.05
SS-13	12-Sep-18	17:05	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.86	mg/l		0.03	0.05
SS-14	12-Sep-18	16:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.82	mg/l		0.03	0.05

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.11	mg/l		0.03	0.05
SS-15B	12-Sep-18	13:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.76	mg/l		0.03	0.05
SS-15G	12-Sep-18	13:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.09	mg/l		0.03	0.05
SS-16B	12-Sep-18	11:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.67	mg/l		0.03	0.05
SS-17D	12-Sep-18	10:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.68	mg/l		0.03	0.05
SS-19	12-Sep-18	8:40	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.84	mg/l		0.03	0.05
SS-17D	12-Sep-18	9:45	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	<0.0004	mg/l		0.0004	0.003
SS-15A-2	12-Sep-18	15:00	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.079	mg/l		0.0004	0.003
SS-13	12-Sep-18	17:05	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.07	mg/l		0.0004	0.003
SS-14	12-Sep-18	16:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.077	mg/l		0.0004	0.003
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.075	mg/l		0.0004	0.003
SS-15B	12-Sep-18	13:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.068	mg/l		0.0004	0.003
SS-15G	12-Sep-18	13:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.029	mg/l		0.0004	0.003
SS-16B	12-Sep-18	11:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.069	mg/l		0.0004	0.003
SS-17D	12-Sep-18	10:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.076	mg/l		0.0004	0.003
SS-19	12-Sep-18	8:40	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.077	mg/l		0.0004	0.003
SS-17D	12-Sep-18	9:45	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Total suspended solids		NA	1	mg/l		0.3	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Total suspended solids		NA	3	mg/l		0.3	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Total suspended solids		NA	1	mg/l		0.3	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Total suspended solids		NA	1	mg/l		0.3	1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Total suspended solids		NA	1	mg/l		0.3	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Total suspended solids		NA	4	mg/l		0.3	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Total suspended solids		NA	6	mg/l		0.3	1
SS-13	12-Sep-18	17:05	F-MSR/OBS	Turbidity		NA	1.5	NTU			
SS-14	12-Sep-18	16:15	F-MSR/OBS	Turbidity		NA	1.5	NTU			
SS-15A-2	12-Sep-18	15:00	F-MSR/OBS	Turbidity		NA	1.2	NTU			
SS-15B	12-Sep-18	13:00	F-MSR/OBS	Turbidity		NA	1.1	NTU			
SS-15G	12-Sep-18	13:15	F-MSR/OBS	Turbidity		NA	1.9	NTU			
SS-16B	12-Sep-18	11:00	F-MSR/OBS	Turbidity		NA	2	NTU			
SS-17D	12-Sep-18	10:15	F-MSR/OBS	Turbidity		NA	2.5	NTU			
SS-19	12-Sep-18	8:40	F-MSR/OBS	Turbidity		NA	3.2	NTU			
SS-17D	12-Sep-18	9:45	QC-FB	Uranium-238		Dissolved	<0.00001	mg/l		0.00001	0.0002
SS-15A-2	12-Sep-18	15:00	QC-FD	Uranium-238		Dissolved	0.0055	mg/l		0.00001	0.0002
SS-13	12-Sep-18	17:05	S-ROUTINE	Uranium-238		Dissolved	0.0053	mg/l		0.00001	0.0002
SS-14	12-Sep-18	16:15	S-ROUTINE	Uranium-238		Dissolved	0.0052	mg/l		0.00001	0.0002
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Uranium-238		Dissolved	0.0053	mg/l		0.00001	0.0002
SS-15B	12-Sep-18	13:00	S-ROUTINE	Uranium-238		Dissolved	0.0044	mg/l		0.00001	0.0002
SS-15G	12-Sep-18	13:15	S-ROUTINE	Uranium-238		Dissolved	0.0007	mg/l		0.00001	0.0002
SS-16B	12-Sep-18	11:00	S-ROUTINE	Uranium-238		Dissolved	0.0045	mg/l		0.00001	0.0002
SS-17D	12-Sep-18	10:15	S-ROUTINE	Uranium-238		Dissolved	0.0043	mg/l		0.00001	0.0002
SS-19	12-Sep-18	8:40	S-ROUTINE	Uranium-238		Dissolved	0.0046	mg/l		0.00001	0.0002
SS-17D	12-Sep-18	9:45	QC-FB	Uranium-238		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15A-2	12-Sep-18	15:00	QC-FD	Uranium-238		Total Recv	0.0055	mg/l		0.000009	0.0002
SS-13	12-Sep-18	17:05	S-ROUTINE	Uranium-238		Total Recv	0.0055	mg/l		0.000009	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	12-Sep-18	16:15	S-ROUTINE	Uranium-238		Total Recv	0.0053	mg/l		0.000009	0.0002
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Uranium-238		Total Recv	0.0054	mg/l		0.000009	0.0002
SS-15B	12-Sep-18	13:00	S-ROUTINE	Uranium-238		Total Recv	0.0047	mg/l		0.000009	0.0002
SS-15G	12-Sep-18	13:15	S-ROUTINE	Uranium-238		Total Recv	0.0008	mg/l		0.000009	0.0002
SS-16B	12-Sep-18	11:00	S-ROUTINE	Uranium-238		Total Recv	0.0045	mg/l		0.000009	0.0002
SS-17D	12-Sep-18	10:15	S-ROUTINE	Uranium-238		Total Recv	0.0045	mg/l		0.000009	0.0002
SS-19	12-Sep-18	8:40	S-ROUTINE	Uranium-238		Total Recv	0.0047	mg/l		0.000009	0.0002
SS-17D	12-Sep-18	9:45	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-15A-2	12-Sep-18	15:00	QC-FD	Vanadium		Dissolved	0.0021	mg/l	J	0.00007	0.1
SS-13	12-Sep-18	17:05	S-ROUTINE	Vanadium		Dissolved	0.002	mg/l	J	0.00007	0.1
SS-14	12-Sep-18	16:15	S-ROUTINE	Vanadium		Dissolved	0.002	mg/l	J	0.00007	0.1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Vanadium		Dissolved	0.002	mg/l	J	0.00007	0.1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Vanadium		Dissolved	0.0011	mg/l	J	0.00007	0.1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Vanadium		Dissolved	0.0019	mg/l	J	0.00007	0.1
SS-19	12-Sep-18	8:40	S-ROUTINE	Vanadium		Dissolved	0.0023	mg/l	J	0.00007	0.1
SS-17D	12-Sep-18	9:45	QC-FB	Vanadium		Total Recv	0.0015	mg/l	J	0.00002	0.1
SS-15A-2	12-Sep-18	15:00	QC-FD	Vanadium		Total Recv	0.0033	mg/l	J	0.00002	0.1
SS-13	12-Sep-18	17:05	S-ROUTINE	Vanadium		Total Recv	0.0033	mg/l	J	0.00002	0.1
SS-14	12-Sep-18	16:15	S-ROUTINE	Vanadium		Total Recv	0.0032	mg/l	J	0.00002	0.1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Vanadium		Total Recv	0.0033	mg/l	J	0.00002	0.1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Vanadium		Total Recv	0.0031	mg/l	J	0.00002	0.1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Vanadium		Total Recv	0.0026	mg/l	J	0.00002	0.1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Vanadium		Total Recv	0.0031	mg/l	J	0.00002	0.1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Vanadium		Total Recv	0.0033	mg/l	J	0.00002	0.1
SS-19	12-Sep-18	8:40	S-ROUTINE	Vanadium		Total Recv	0.0038	mg/l	J	0.00002	0.1
SS-17D	12-Sep-18	9:45	QC-FB	Zinc		Dissolved	0.01	mg/l		0.0003	0.008
SS-15A-2	12-Sep-18	15:00	QC-FD	Zinc		Dissolved	0.025	mg/l		0.0003	0.008
SS-13	12-Sep-18	17:05	S-ROUTINE	Zinc		Dissolved	0.036	mg/l	B	0.0003	0.008
SS-14	12-Sep-18	16:15	S-ROUTINE	Zinc		Dissolved	0.032	mg/l	B	0.0003	0.008
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Zinc		Dissolved	0.024	mg/l	B	0.0003	0.008
SS-15B	12-Sep-18	13:00	S-ROUTINE	Zinc		Dissolved	0.026	mg/l	B	0.0003	0.008
SS-15G	12-Sep-18	13:15	S-ROUTINE	Zinc		Dissolved	0.0033	mg/l	J	0.0003	0.008
SS-16B	12-Sep-18	11:00	S-ROUTINE	Zinc		Dissolved	0.03	mg/l	B	0.0003	0.008
SS-17D	12-Sep-18	10:15	S-ROUTINE	Zinc		Dissolved	0.049	mg/l	B	0.0003	0.008
SS-19	12-Sep-18	8:40	S-ROUTINE	Zinc		Dissolved	0.048	mg/l	B	0.0003	0.008
SS-17D	12-Sep-18	9:45	QC-FB	Zinc		Total Recv	0.002	mg/l	J	0.001	0.008
SS-15A-2	12-Sep-18	15:00	QC-FD	Zinc		Total Recv	0.034	mg/l		0.001	0.008
SS-13	12-Sep-18	17:05	S-ROUTINE	Zinc		Total Recv	0.046	mg/l		0.001	0.008
SS-14	12-Sep-18	16:15	S-ROUTINE	Zinc		Total Recv	0.038	mg/l		0.001	0.008
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Zinc		Total Recv	0.034	mg/l		0.001	0.008
SS-15B	12-Sep-18	13:00	S-ROUTINE	Zinc		Total Recv	0.035	mg/l		0.001	0.008
SS-15G	12-Sep-18	13:15	S-ROUTINE	Zinc		Total Recv	0.002	mg/l	J	0.001	0.008
SS-16B	12-Sep-18	11:00	S-ROUTINE	Zinc		Total Recv	0.038	mg/l		0.001	0.008
SS-17D	12-Sep-18	10:15	S-ROUTINE	Zinc		Total Recv	0.062	mg/l		0.001	0.008
SS-19	12-Sep-18	8:40	S-ROUTINE	Zinc		Total Recv	0.066	mg/l		0.001	0.008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	10:45	QC-FB	Alkalinity, total	as CaCO3	Total	2	mg/l	J	2	4
SS-11D	13-Sep-18	8:45	QC-FD	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-01	13-Sep-18	16:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	99	mg/l		2	4
SS-05A	13-Sep-18	14:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-06G	13-Sep-18	13:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		2	4
SS-07	13-Sep-18	13:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-08	13-Sep-18	12:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-10A	13-Sep-18	11:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-11C	13-Sep-18	9:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-11D	13-Sep-18	8:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	mg/l		2	4
SS-10A	13-Sep-18	10:45	QC-FB	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-11D	13-Sep-18	8:45	QC-FD	Aluminum		Dissolved	0.004	mg/l	J	0.003	0.009
SS-01	13-Sep-18	16:30	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-05A	13-Sep-18	14:45	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-06G	13-Sep-18	13:45	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-07	13-Sep-18	13:15	S-ROUTINE	Aluminum		Dissolved	0.008	mg/l	J	0.003	0.009
SS-08	13-Sep-18	12:00	S-ROUTINE	Aluminum		Dissolved	0.005	mg/l	J	0.003	0.009
SS-10A	13-Sep-18	11:15	S-ROUTINE	Aluminum		Dissolved	0.006	mg/l	J	0.003	0.009
SS-11C	13-Sep-18	9:45	S-ROUTINE	Aluminum		Dissolved	0.006	mg/l	J	0.003	0.009
SS-11D	13-Sep-18	8:45	S-ROUTINE	Aluminum		Dissolved	0.004	mg/l	J	0.003	0.009
SS-10A	13-Sep-18	10:45	QC-FB	Aluminum		Total Recv	<0.003	mg/l		0.003	0.009
SS-11D	13-Sep-18	8:45	QC-FD	Aluminum		Total Recv	0.054	mg/l		0.003	0.009
SS-01	13-Sep-18	16:30	S-ROUTINE	Aluminum		Total Recv	0.032	mg/l		0.003	0.009
SS-05A	13-Sep-18	14:45	S-ROUTINE	Aluminum		Total Recv	0.028	mg/l		0.003	0.009
SS-06G	13-Sep-18	13:45	S-ROUTINE	Aluminum		Total Recv	0.026	mg/l		0.003	0.009
SS-07	13-Sep-18	13:15	S-ROUTINE	Aluminum		Total Recv	0.028	mg/l		0.003	0.009
SS-08	13-Sep-18	12:00	S-ROUTINE	Aluminum		Total Recv	0.057	mg/l		0.003	0.009
SS-10A	13-Sep-18	11:15	S-ROUTINE	Aluminum		Total Recv	0.035	mg/l		0.003	0.009
SS-11C	13-Sep-18	9:45	S-ROUTINE	Aluminum		Total Recv	0.04	mg/l		0.003	0.009
SS-11D	13-Sep-18	8:45	S-ROUTINE	Aluminum		Total Recv	0.061	mg/l		0.003	0.009
SS-10A	13-Sep-18	10:45	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11D	13-Sep-18	8:45	QC-FD	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-01	13-Sep-18	16:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-05A	13-Sep-18	14:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-06G	13-Sep-18	13:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-07	13-Sep-18	13:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-08	13-Sep-18	12:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-10A	13-Sep-18	11:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11C	13-Sep-18	9:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11D	13-Sep-18	8:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-10A	13-Sep-18	10:45	QC-FB	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-11D	13-Sep-18	8:45	QC-FD	Antimony		Dissolved	0.00035	mg/l	J	0.00009	0.0005
SS-01	13-Sep-18	16:30	S-ROUTINE	Antimony		Dissolved	0.00015	mg/l	J	0.00009	0.0005
SS-05A	13-Sep-18	14:45	S-ROUTINE	Antimony		Dissolved	0.00019	mg/l	J	0.00009	0.0005
SS-06G	13-Sep-18	13:45	S-ROUTINE	Antimony		Dissolved	0.00022	mg/l	J	0.00009	0.0005
SS-07	13-Sep-18	13:15	S-ROUTINE	Antimony		Dissolved	0.00029	mg/l	J	0.00009	0.0005
SS-08	13-Sep-18	12:00	S-ROUTINE	Antimony		Dissolved	0.00033	mg/l	J	0.00009	0.0005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	11:15	S-ROUTINE	Antimony		Dissolved	0.00031	mg/l	J	0.00009	0.0005
SS-11C	13-Sep-18	9:45	S-ROUTINE	Antimony		Dissolved	0.00042	mg/l	J	0.00009	0.0005
SS-11D	13-Sep-18	8:45	S-ROUTINE	Antimony		Dissolved	0.00036	mg/l	J	0.00009	0.0005
SS-10A	13-Sep-18	10:45	QC-FB	Antimony		Total Recv	0.0002	mg/l	J	0.0001	0.0005
SS-11D	13-Sep-18	8:45	QC-FD	Antimony		Total Recv	0.0005	mg/l		0.0001	0.0005
SS-01	13-Sep-18	16:30	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.0001	0.0005
SS-05A	13-Sep-18	14:45	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.0001	0.0005
SS-06G	13-Sep-18	13:45	S-ROUTINE	Antimony		Total Recv	0.0004	mg/l	J	0.0001	0.0005
SS-07	13-Sep-18	13:15	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-08	13-Sep-18	12:00	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-10A	13-Sep-18	11:15	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-11C	13-Sep-18	9:45	S-ROUTINE	Antimony		Total Recv	0.0006	mg/l		0.0001	0.0005
SS-11D	13-Sep-18	8:45	S-ROUTINE	Antimony		Total Recv	0.0005	mg/l	J	0.0001	0.0005
SS-10A	13-Sep-18	10:45	QC-FB	Arsenic		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00004	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Arsenic		Total Recv	0.00012	mg/l	J	0.00004	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Arsenic		Total Recv	0.006	mg/l		0.00004	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Barium		Dissolved	0.0011	mg/l	J	0.00002	0.003
SS-11D	13-Sep-18	8:45	QC-FD	Barium		Dissolved	0.045	mg/l		0.00002	0.003
SS-01	13-Sep-18	16:30	S-ROUTINE	Barium		Dissolved	0.049	mg/l		0.00002	0.003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Barium		Dissolved	0.054	mg/l		0.00002	0.003
SS-06G	13-Sep-18	13:45	S-ROUTINE	Barium		Dissolved	0.044	mg/l		0.00002	0.003
SS-07	13-Sep-18	13:15	S-ROUTINE	Barium		Dissolved	0.041	mg/l		0.00002	0.003
SS-08	13-Sep-18	12:00	S-ROUTINE	Barium		Dissolved	0.041	mg/l		0.00002	0.003
SS-10A	13-Sep-18	11:15	S-ROUTINE	Barium		Dissolved	0.043	mg/l		0.00002	0.003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Barium		Dissolved	0.047	mg/l		0.00002	0.003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Barium		Dissolved	0.044	mg/l		0.00002	0.003
SS-10A	13-Sep-18	10:45	QC-FB	Barium		Total Recv	0.00018	mg/l	J	0.00009	0.003
SS-11D	13-Sep-18	8:45	QC-FD	Barium		Total Recv	0.043	mg/l		0.00009	0.003
SS-01	13-Sep-18	16:30	S-ROUTINE	Barium		Total Recv	0.05	mg/l		0.00009	0.003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Barium		Total Recv	0.051	mg/l		0.00009	0.003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	13-Sep-18	13:45	S-ROUTINE	Barium		Total Recv	0.044	mg/l		0.00009	0.003
SS-07	13-Sep-18	13:15	S-ROUTINE	Barium		Total Recv	0.04	mg/l		0.00009	0.003
SS-08	13-Sep-18	12:00	S-ROUTINE	Barium		Total Recv	0.04	mg/l		0.00009	0.003
SS-10A	13-Sep-18	11:15	S-ROUTINE	Barium		Total Recv	0.041	mg/l		0.00009	0.003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Barium		Total Recv	0.045	mg/l		0.00009	0.003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Barium		Total Recv	0.044	mg/l		0.00009	0.003
SS-10A	13-Sep-18	10:45	QC-FB	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11D	13-Sep-18	8:45	QC-FD	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-01	13-Sep-18	16:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-05A	13-Sep-18	14:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-06G	13-Sep-18	13:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-07	13-Sep-18	13:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-08	13-Sep-18	12:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-10A	13-Sep-18	11:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11C	13-Sep-18	9:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11D	13-Sep-18	8:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-10A	13-Sep-18	10:45	QC-FB	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11D	13-Sep-18	8:45	QC-FD	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-01	13-Sep-18	16:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-05A	13-Sep-18	14:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-06G	13-Sep-18	13:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-07	13-Sep-18	13:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-08	13-Sep-18	12:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-10A	13-Sep-18	11:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11C	13-Sep-18	9:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11D	13-Sep-18	8:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-10A	13-Sep-18	10:45	QC-FB	Bicarbonate	as HCO3	Total	2	mg/l	J	2	4
SS-11D	13-Sep-18	8:45	QC-FD	Bicarbonate	as HCO3	Total	150	mg/l		2	4
SS-01	13-Sep-18	16:30	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		2	4
SS-05A	13-Sep-18	14:45	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-06G	13-Sep-18	13:45	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-07	13-Sep-18	13:15	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-08	13-Sep-18	12:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-10A	13-Sep-18	11:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-11C	13-Sep-18	9:45	S-ROUTINE	Bicarbonate	as HCO3	Total	150	mg/l		2	4
SS-11D	13-Sep-18	8:45	S-ROUTINE	Bicarbonate	as HCO3	Total	150	mg/l		2	4
SS-10A	13-Sep-18	10:45	QC-FB	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-11D	13-Sep-18	8:45	QC-FD	Boron		Dissolved	0.071	mg/l	J	0.006	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Boron		Dissolved	0.02	mg/l	J	0.006	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Boron		Dissolved	0.029	mg/l	J	0.006	0.1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Boron		Dissolved	0.064	mg/l	J	0.006	0.1
SS-07	13-Sep-18	13:15	S-ROUTINE	Boron		Dissolved	0.071	mg/l	J	0.006	0.1
SS-08	13-Sep-18	12:00	S-ROUTINE	Boron		Dissolved	0.075	mg/l	J	0.006	0.1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Boron		Dissolved	0.079	mg/l	J	0.006	0.1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Boron		Dissolved	0.074	mg/l	J	0.006	0.1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Boron		Dissolved	0.067	mg/l	J	0.006	0.1
SS-10A	13-Sep-18	10:45	QC-FB	Boron		Total Recv	<0.005	mg/l		0.005	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	13-Sep-18	8:45	QC-FD	Boron		Total Recv	0.072	mg/l	J	0.005	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Boron		Total Recv	0.019	mg/l	J	0.005	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Boron		Total Recv	0.029	mg/l	J	0.005	0.1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Boron		Total Recv	0.064	mg/l	J	0.005	0.1
SS-07	13-Sep-18	13:15	S-ROUTINE	Boron		Total Recv	0.074	mg/l	J	0.005	0.1
SS-08	13-Sep-18	12:00	S-ROUTINE	Boron		Total Recv	0.082	mg/l	J	0.005	0.1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Boron		Total Recv	0.079	mg/l	J	0.005	0.1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Boron		Total Recv	0.077	mg/l	J	0.005	0.1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Boron		Total Recv	0.077	mg/l	J	0.005	0.1
SS-10A	13-Sep-18	10:45	QC-FB	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-11D	13-Sep-18	8:45	QC-FD	Cadmium		Dissolved	0.00019	mg/l		0.00003	0.00003
SS-01	13-Sep-18	16:30	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cadmium		Dissolved	0.00004	mg/l		0.00003	0.00003
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cadmium		Dissolved	0.00006	mg/l		0.00003	0.00003
SS-07	13-Sep-18	13:15	S-ROUTINE	Cadmium		Dissolved	0.00006	mg/l		0.00003	0.00003
SS-08	13-Sep-18	12:00	S-ROUTINE	Cadmium		Dissolved	0.00014	mg/l		0.00003	0.00003
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cadmium		Dissolved	0.0002	mg/l		0.00003	0.00003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cadmium		Dissolved	0.00019	mg/l		0.00003	0.00003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cadmium		Dissolved	0.0002	mg/l		0.00003	0.00003
SS-10A	13-Sep-18	10:45	QC-FB	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-11D	13-Sep-18	8:45	QC-FD	Cadmium		Total Recv	0.00021	mg/l		0.00003	0.00003
SS-01	13-Sep-18	16:30	S-ROUTINE	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cadmium		Total Recv	0.00006	mg/l		0.00003	0.00003
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cadmium		Total Recv	0.0001	mg/l		0.00003	0.00003
SS-07	13-Sep-18	13:15	S-ROUTINE	Cadmium		Total Recv	0.00008	mg/l		0.00003	0.00003
SS-08	13-Sep-18	12:00	S-ROUTINE	Cadmium		Total Recv	0.0002	mg/l		0.00003	0.00003
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cadmium		Total Recv	0.00025	mg/l		0.00003	0.00003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cadmium		Total Recv	0.00024	mg/l		0.00003	0.00003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cadmium		Total Recv	0.00025	mg/l		0.00003	0.00003
SS-10A	13-Sep-18	10:45	QC-FB	Calcium		Dissolved	<0.07	mg/l		0.07	1
SS-11D	13-Sep-18	8:45	QC-FD	Calcium		Dissolved	61	mg/l		0.07	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Calcium		Dissolved	34	mg/l		0.07	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Calcium		Dissolved	39	mg/l		0.07	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Calcium		Dissolved	54	mg/l		0.07	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Calcium		Dissolved	50	mg/l		0.07	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Calcium		Dissolved	53	mg/l		0.07	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Calcium		Dissolved	55	mg/l		0.07	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Calcium		Dissolved	65	mg/l		0.07	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Calcium		Dissolved	62	mg/l		0.07	1
SS-10A	13-Sep-18	10:45	QC-FB	Calcium		Total Recv	<0.09	mg/l		0.09	1
SS-11D	13-Sep-18	8:45	QC-FD	Calcium		Total Recv	64	mg/l		0.09	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Calcium		Total Recv	35	mg/l		0.09	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Calcium		Total Recv	39	mg/l		0.09	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Calcium		Total Recv	57	mg/l		0.09	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Calcium		Total Recv	51	mg/l		0.09	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Calcium		Total Recv	56	mg/l		0.09	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Calcium		Total Recv	55	mg/l		0.09	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	13-Sep-18	9:45	S-ROUTINE	Calcium		Total Recv	67	mg/l		0.09	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Calcium		Total Recv	63	mg/l		0.09	1
SS-10A	13-Sep-18	10:45	QC-FB	Chloride		Total	0.01	mg/l	J	0.009	1
SS-11D	13-Sep-18	8:45	QC-FD	Chloride		Total	53	mg/l		0.009	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Chloride		Total	13	mg/l		0.009	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Chloride		Total	21	mg/l		0.009	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Chloride		Total	32	mg/l		0.009	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Chloride		Total	36	mg/l		0.009	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Chloride		Total	37	mg/l		0.009	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Chloride		Total	37	mg/l		0.009	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Chloride		Total	58	mg/l		0.009	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Chloride		Total	52	mg/l		0.009	1
SS-10A	13-Sep-18	10:45	QC-FB	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11D	13-Sep-18	8:45	QC-FD	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-01	13-Sep-18	16:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-05A	13-Sep-18	14:45	S-ROUTINE	Chromium		Dissolved	0.0002	mg/l	J	0.0002	0.01
SS-06G	13-Sep-18	13:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-07	13-Sep-18	13:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-08	13-Sep-18	12:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-10A	13-Sep-18	11:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11C	13-Sep-18	9:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11D	13-Sep-18	8:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-10A	13-Sep-18	10:45	QC-FB	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-11D	13-Sep-18	8:45	QC-FD	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-01	13-Sep-18	16:30	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-05A	13-Sep-18	14:45	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-06G	13-Sep-18	13:45	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-07	13-Sep-18	13:15	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-08	13-Sep-18	12:00	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-10A	13-Sep-18	11:15	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-11C	13-Sep-18	9:45	S-ROUTINE	Chromium		Total Recv	0.0003	mg/l	J	0.0001	0.01
SS-11D	13-Sep-18	8:45	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-10A	13-Sep-18	10:45	QC-FB	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-11D	13-Sep-18	8:45	QC-FD	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-01	13-Sep-18	16:30	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cobalt		Dissolved	0.00009	mg/l	J	0.00009	0.01
SS-07	13-Sep-18	13:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-08	13-Sep-18	12:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-10A	13-Sep-18	10:45	QC-FB	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-11D	13-Sep-18	8:45	QC-FD	Cobalt		Total Recv	0.00012	mg/l	J	0.00006	0.01
SS-01	13-Sep-18	16:30	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cobalt		Total Recv	0.00016	mg/l	J	0.00006	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	13-Sep-18	13:15	S-ROUTINE	Cobalt		Total Recv	0.00013	mg/l	J	0.00006	0.01
SS-08	13-Sep-18	12:00	S-ROUTINE	Cobalt		Total Recv	0.00014	mg/l	J	0.00006	0.01
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cobalt		Total Recv	0.00007	mg/l	J	0.00006	0.01
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cobalt		Total Recv	0.0001	mg/l	J	0.00006	0.01
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cobalt		Total Recv	0.00011	mg/l	J	0.00006	0.01
SS-10A	13-Sep-18	10:45	QC-FB	Copper		Dissolved	<0.0001	mg/l		0.0001	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Copper		Dissolved	0.015	mg/l		0.0001	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Copper		Dissolved	0.001	mg/l		0.0001	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Copper		Dissolved	0.002	mg/l		0.0001	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Copper		Dissolved	0.004	mg/l		0.0001	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Copper		Dissolved	0.004	mg/l		0.0001	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Copper		Dissolved	0.006	mg/l		0.0001	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Copper		Dissolved	0.014	mg/l		0.0001	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Copper		Dissolved	0.017	mg/l		0.0001	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Copper		Dissolved	0.015	mg/l		0.0001	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Copper		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Copper		Total Recv	0.02	mg/l		0.0002	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Copper		Total Recv	0.002	mg/l		0.0002	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Copper		Total Recv	0.004	mg/l		0.0002	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Copper		Total Recv	0.007	mg/l		0.0002	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Copper		Total Recv	0.006	mg/l		0.0002	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Copper		Total Recv	0.01	mg/l		0.0002	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Copper		Total Recv	0.027	mg/l		0.0002	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Copper		Total Recv	0.022	mg/l		0.0002	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Copper		Total Recv	0.02	mg/l		0.0002	0.001
SS-01	13-Sep-18	16:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.9	mg/l			
SS-05A	13-Sep-18	14:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	10.2	mg/l			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.7	mg/l			
SS-07	13-Sep-18	13:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	8.4	mg/l			
SS-08	13-Sep-18	12:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	9	mg/l			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	9.3	mg/l			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	9	mg/l			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	8	mg/l			
SS-01	13-Sep-18	16:30	F-MSR/OBS	Dissolved oxygen saturation		NA	98	%			
SS-05A	13-Sep-18	14:45	F-MSR/OBS	Dissolved oxygen saturation		NA	115	%			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	Dissolved oxygen saturation		NA	110	%			
SS-07	13-Sep-18	13:15	F-MSR/OBS	Dissolved oxygen saturation		NA	101	%			
SS-08	13-Sep-18	12:00	F-MSR/OBS	Dissolved oxygen saturation		NA	103	%			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	Dissolved oxygen saturation		NA	106	%			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	Dissolved oxygen saturation		NA	99	%			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	Dissolved oxygen saturation		NA	87	%			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	Flow		NA	17.01	ft3/sec			
SS-07	13-Sep-18	13:15	F-MSR/OBS	Flow		NA	25.7	ft3/sec			
SS-08	13-Sep-18	12:00	F-MSR/OBS	Flow		NA	22.57	ft3/sec			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	Flow		NA	20.43	ft3/sec			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	Flow		NA	20.51	ft3/sec			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	Flow		NA	23.62	ft3/sec			

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	10:45	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1	mg/l		1	1
SS-11D	13-Sep-18	8:45	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	209	mg/l		1	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	120	mg/l		1	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	135	mg/l		1	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	193	mg/l		1	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	177	mg/l		1	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	199	mg/l		1	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	196	mg/l		1	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	223	mg/l		1	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	217	mg/l		1	1
SS-10A	13-Sep-18	10:45	QC-FB	Iron		Dissolved	<0.002	mg/l		0.002	0.02
SS-11D	13-Sep-18	8:45	QC-FD	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-01	13-Sep-18	16:30	S-ROUTINE	Iron		Dissolved	0.19	mg/l		0.002	0.02
SS-05A	13-Sep-18	14:45	S-ROUTINE	Iron		Dissolved	0.12	mg/l		0.002	0.02
SS-06G	13-Sep-18	13:45	S-ROUTINE	Iron		Dissolved	0.08	mg/l		0.002	0.02
SS-07	13-Sep-18	13:15	S-ROUTINE	Iron		Dissolved	0.08	mg/l		0.002	0.02
SS-08	13-Sep-18	12:00	S-ROUTINE	Iron		Dissolved	0.07	mg/l		0.002	0.02
SS-10A	13-Sep-18	11:15	S-ROUTINE	Iron		Dissolved	0.009	mg/l	J	0.002	0.02
SS-11C	13-Sep-18	9:45	S-ROUTINE	Iron		Dissolved	0.04	mg/l		0.002	0.02
SS-11D	13-Sep-18	8:45	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-10A	13-Sep-18	10:45	QC-FB	Iron		Total Recv	<0.004	mg/l		0.004	0.02
SS-11D	13-Sep-18	8:45	QC-FD	Iron		Total Recv	0.12	mg/l		0.004	0.02
SS-01	13-Sep-18	16:30	S-ROUTINE	Iron		Total Recv	0.38	mg/l		0.004	0.02
SS-05A	13-Sep-18	14:45	S-ROUTINE	Iron		Total Recv	0.32	mg/l		0.004	0.02
SS-06G	13-Sep-18	13:45	S-ROUTINE	Iron		Total Recv	0.27	mg/l		0.004	0.02
SS-07	13-Sep-18	13:15	S-ROUTINE	Iron		Total Recv	0.2	mg/l		0.004	0.02
SS-08	13-Sep-18	12:00	S-ROUTINE	Iron		Total Recv	0.25	mg/l		0.004	0.02
SS-10A	13-Sep-18	11:15	S-ROUTINE	Iron		Total Recv	0.12	mg/l		0.004	0.02
SS-11C	13-Sep-18	9:45	S-ROUTINE	Iron		Total Recv	0.11	mg/l		0.004	0.02
SS-11D	13-Sep-18	8:45	S-ROUTINE	Iron		Total Recv	0.13	mg/l		0.004	0.02
SS-10A	13-Sep-18	10:45	QC-FB	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-11D	13-Sep-18	8:45	QC-FD	Lead		Dissolved	0.0005	mg/l		0.00003	0.0003
SS-01	13-Sep-18	16:30	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Lead		Dissolved	0.00004	mg/l	J	0.00003	0.0003
SS-06G	13-Sep-18	13:45	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-07	13-Sep-18	13:15	S-ROUTINE	Lead		Dissolved	0.00006	mg/l	J	0.00003	0.0003
SS-08	13-Sep-18	12:00	S-ROUTINE	Lead		Dissolved	0.0002	mg/l	J	0.00003	0.0003
SS-10A	13-Sep-18	11:15	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Lead		Dissolved	0.00014	mg/l	J	0.00003	0.0003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Lead		Dissolved	0.0004	mg/l		0.00003	0.0003
SS-10A	13-Sep-18	10:45	QC-FB	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-11D	13-Sep-18	8:45	QC-FD	Lead		Total Recv	0.0035	mg/l		0.00004	0.0003
SS-01	13-Sep-18	16:30	S-ROUTINE	Lead		Total Recv	0.00021	mg/l	J	0.00004	0.0003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Lead		Total Recv	0.0006	mg/l		0.00004	0.0003
SS-06G	13-Sep-18	13:45	S-ROUTINE	Lead		Total Recv	0.0006	mg/l		0.00004	0.0003
SS-07	13-Sep-18	13:15	S-ROUTINE	Lead		Total Recv	0.0005	mg/l		0.00004	0.0003
SS-08	13-Sep-18	12:00	S-ROUTINE	Lead		Total Recv	0.0037	mg/l		0.00004	0.0003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	11:15	S-ROUTINE	Lead		Total Recv	0.0007	mg/l		0.00004	0.0003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Lead		Total Recv	0.0006	mg/l		0.00004	0.0003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Lead		Total Recv	0.0037	mg/l		0.00004	0.0003
SS-10A	13-Sep-18	10:45	QC-FB	Magnesium		Dissolved	<0.01	mg/l		0.01	1
SS-11D	13-Sep-18	8:45	QC-FD	Magnesium		Dissolved	14	mg/l		0.1	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Magnesium		Dissolved	8	mg/l		0.1	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Magnesium		Dissolved	9	mg/l		0.1	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Magnesium		Dissolved	13	mg/l		0.1	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-10A	13-Sep-18	10:45	QC-FB	Magnesium		Total Recv	<0.009	mg/l		0.009	1
SS-11D	13-Sep-18	8:45	QC-FD	Magnesium		Total Recv	14	mg/l		0.2	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Magnesium		Total Recv	9	mg/l		0.2	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Magnesium		Total Recv	10	mg/l		0.2	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-10A	13-Sep-18	10:45	QC-FB	Manganese		Dissolved	<0.0003	mg/l		0.0003	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Manganese		Dissolved	0.062	mg/l		0.0003	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Manganese		Dissolved	0.029	mg/l		0.0003	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Manganese		Dissolved	0.059	mg/l		0.0003	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Manganese		Dissolved	0.073	mg/l		0.0003	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Manganese		Dissolved	0.059	mg/l		0.0003	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Manganese		Dissolved	0.061	mg/l		0.0003	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Manganese		Dissolved	0.031	mg/l		0.0003	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Manganese		Dissolved	0.063	mg/l		0.0003	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Manganese		Dissolved	0.063	mg/l		0.0003	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Manganese		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Manganese		Total Recv	0.077	mg/l		0.0003	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Manganese		Total Recv	0.032	mg/l		0.0003	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Manganese		Total Recv	0.063	mg/l		0.0003	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Manganese		Total Recv	0.088	mg/l		0.0003	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Manganese		Total Recv	0.071	mg/l		0.0003	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Manganese		Total Recv	0.094	mg/l		0.0003	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Manganese		Total Recv	0.036	mg/l		0.0003	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Manganese		Total Recv	0.074	mg/l		0.0003	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Manganese		Total Recv	0.076	mg/l		0.0003	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-11D	13-Sep-18	8:45	QC-FD	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-01	13-Sep-18	16:30	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-05A	13-Sep-18	14:45	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	13-Sep-18	13:45	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-07	13-Sep-18	13:15	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-08	13-Sep-18	12:00	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-10A	13-Sep-18	11:15	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-11C	13-Sep-18	9:45	S-ROUTINE	Mercury		Dissolved	0.0000023	mg/l	J	0.000001	0.000005
SS-11D	13-Sep-18	8:45	S-ROUTINE	Mercury		Dissolved	<0.000001	mg/l		0.000001	0.000005
SS-10A	13-Sep-18	10:45	QC-FB	Mercury		Total Recv	<0.000001	mg/l		0.000001	0.000005
SS-11D	13-Sep-18	8:45	QC-FD	Mercury		Total Recv	0.0000096	mg/l		0.000001	0.000005
SS-01	13-Sep-18	16:30	S-ROUTINE	Mercury		Total Recv	<0.000001	mg/l		0.000001	0.000005
SS-05A	13-Sep-18	14:45	S-ROUTINE	Mercury		Total Recv	0.0000014	mg/l	J	0.000001	0.000005
SS-06G	13-Sep-18	13:45	S-ROUTINE	Mercury		Total Recv	0.0000028	mg/l	J	0.000001	0.000005
SS-07	13-Sep-18	13:15	S-ROUTINE	Mercury		Total Recv	0.0000024	mg/l	J	0.000001	0.000005
SS-08	13-Sep-18	12:00	S-ROUTINE	Mercury		Total Recv	0.0000151	mg/l		0.000001	0.000005
SS-10A	13-Sep-18	11:15	S-ROUTINE	Mercury		Total Recv	0.0000053	mg/l		0.000001	0.000005
SS-11C	13-Sep-18	9:45	S-ROUTINE	Mercury		Total Recv	0.000005	mg/l		0.000001	0.000005
SS-11D	13-Sep-18	8:45	S-ROUTINE	Mercury		Total Recv	0.0000167	mg/l		0.000001	0.000005
SS-10A	13-Sep-18	10:45	QC-FB	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-11D	13-Sep-18	8:45	QC-FD	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-01	13-Sep-18	16:30	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-05A	13-Sep-18	14:45	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-06G	13-Sep-18	13:45	S-ROUTINE	Molybdenum		Dissolved	0.006	mg/l		0.00002	0.005
SS-07	13-Sep-18	13:15	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-08	13-Sep-18	12:00	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-10A	13-Sep-18	11:15	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-11C	13-Sep-18	9:45	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-11D	13-Sep-18	8:45	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-10A	13-Sep-18	10:45	QC-FB	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-11D	13-Sep-18	8:45	QC-FD	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-01	13-Sep-18	16:30	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-05A	13-Sep-18	14:45	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-06G	13-Sep-18	13:45	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-07	13-Sep-18	13:15	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-08	13-Sep-18	12:00	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-10A	13-Sep-18	11:15	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-11C	13-Sep-18	9:45	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-11D	13-Sep-18	8:45	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-10A	13-Sep-18	10:45	QC-FB	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-11D	13-Sep-18	8:45	QC-FD	Nickel		Dissolved	0.0008	mg/l	J	0.0002	0.002
SS-01	13-Sep-18	16:30	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-05A	13-Sep-18	14:45	S-ROUTINE	Nickel		Dissolved	0.0003	mg/l	J	0.0002	0.002
SS-06G	13-Sep-18	13:45	S-ROUTINE	Nickel		Dissolved	0.0005	mg/l	J	0.0002	0.002
SS-07	13-Sep-18	13:15	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-08	13-Sep-18	12:00	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-10A	13-Sep-18	11:15	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-11C	13-Sep-18	9:45	S-ROUTINE	Nickel		Dissolved	0.0018	mg/l	J	0.0002	0.002
SS-11D	13-Sep-18	8:45	S-ROUTINE	Nickel		Dissolved	0.0007	mg/l	J	0.0002	0.002
SS-10A	13-Sep-18	10:45	QC-FB	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	13-Sep-18	8:45	QC-FD	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-01	13-Sep-18	16:30	S-ROUTINE	Nickel		Total Recv	0.0003	mg/l	J	0.0001	0.002
SS-05A	13-Sep-18	14:45	S-ROUTINE	Nickel		Total Recv	0.0003	mg/l	J	0.0001	0.002
SS-06G	13-Sep-18	13:45	S-ROUTINE	Nickel		Total Recv	0.0006	mg/l	J	0.0001	0.002
SS-07	13-Sep-18	13:15	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-08	13-Sep-18	12:00	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-10A	13-Sep-18	11:15	S-ROUTINE	Nickel		Total Recv	0.0008	mg/l	J	0.0001	0.002
SS-11C	13-Sep-18	9:45	S-ROUTINE	Nickel		Total Recv	0.001	mg/l	J	0.0001	0.002
SS-11D	13-Sep-18	8:45	S-ROUTINE	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-10A	13-Sep-18	10:45	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02
SS-11D	13-Sep-18	8:45	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.93	mg/l		0.009	0.02
SS-01	13-Sep-18	16:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.93	mg/l		0.009	0.02
SS-05A	13-Sep-18	14:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.02	mg/l		0.009	0.02
SS-06G	13-Sep-18	13:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.27	mg/l		0.009	0.02
SS-07	13-Sep-18	13:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.52	mg/l		0.009	0.02
SS-08	13-Sep-18	12:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.95	mg/l		0.009	0.02
SS-10A	13-Sep-18	11:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.87	mg/l		0.009	0.02
SS-11C	13-Sep-18	9:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.96	mg/l		0.009	0.02
SS-11D	13-Sep-18	8:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.92	mg/l		0.009	0.02
SS-01	13-Sep-18	16:30	F-MSR/OBS	pH		NA	7.51	None			
SS-05A	13-Sep-18	14:45	F-MSR/OBS	pH		NA	8.19	None			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	pH		NA	8.27	None			
SS-07	13-Sep-18	13:15	F-MSR/OBS	pH		NA	7.68	None			
SS-08	13-Sep-18	12:00	F-MSR/OBS	pH		NA	8.07	None			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	pH		NA	8.17	None			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	pH		NA	7.83	None			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	pH		NA	7.67	None			
SS-10A	13-Sep-18	10:45	QC-FB	Potassium		Dissolved	<0.06	mg/l		0.06	1
SS-11D	13-Sep-18	8:45	QC-FD	Potassium		Dissolved	6	mg/l		0.06	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Potassium		Dissolved	4	mg/l		0.06	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-10A	13-Sep-18	10:45	QC-FB	Potassium		Total Recv	<0.06	mg/l		0.06	1
SS-11D	13-Sep-18	8:45	QC-FD	Potassium		Total Recv	7	mg/l		0.06	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.06	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Potassium		Total Recv	7	mg/l		0.06	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	10:45	QC-FB	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Selenium		Dissolved	0.00053	mg/l	J	0.00002	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Selenium		Dissolved	0.00014	mg/l	J	0.00002	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Selenium		Dissolved	0.00017	mg/l	J	0.00002	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Selenium		Dissolved	0.00018	mg/l	J	0.00002	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Selenium		Dissolved	0.00018	mg/l	J	0.00002	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Selenium		Dissolved	0.00019	mg/l	J	0.00002	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Selenium		Dissolved	0.0002	mg/l	J	0.00002	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Selenium		Dissolved	0.00061	mg/l	J	0.00002	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Selenium		Dissolved	0.00052	mg/l	J	0.00002	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Selenium		Total Recv	0.00008	mg/l	J	0.00005	0.001
SS-11D	13-Sep-18	8:45	QC-FD	Selenium		Total Recv	0.00042	mg/l	J	0.00005	0.001
SS-01	13-Sep-18	16:30	S-ROUTINE	Selenium		Total Recv	0.00035	mg/l	J	0.00005	0.001
SS-05A	13-Sep-18	14:45	S-ROUTINE	Selenium		Total Recv	0.00024	mg/l	J	0.00005	0.001
SS-06G	13-Sep-18	13:45	S-ROUTINE	Selenium		Total Recv	0.00026	mg/l	J	0.00005	0.001
SS-07	13-Sep-18	13:15	S-ROUTINE	Selenium		Total Recv	0.00024	mg/l	J	0.00005	0.001
SS-08	13-Sep-18	12:00	S-ROUTINE	Selenium		Total Recv	0.00025	mg/l	J	0.00005	0.001
SS-10A	13-Sep-18	11:15	S-ROUTINE	Selenium		Total Recv	0.00023	mg/l	J	0.00005	0.001
SS-11C	13-Sep-18	9:45	S-ROUTINE	Selenium		Total Recv	0.0004	mg/l	J	0.00005	0.001
SS-11D	13-Sep-18	8:45	S-ROUTINE	Selenium		Total Recv	0.00041	mg/l	J	0.00005	0.001
SS-10A	13-Sep-18	10:45	QC-FB	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11D	13-Sep-18	8:45	QC-FD	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-01	13-Sep-18	16:30	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-05A	13-Sep-18	14:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-06G	13-Sep-18	13:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-07	13-Sep-18	13:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-08	13-Sep-18	12:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-10A	13-Sep-18	11:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11C	13-Sep-18	9:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11D	13-Sep-18	8:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-10A	13-Sep-18	10:45	QC-FB	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11D	13-Sep-18	8:45	QC-FD	Silver		Total Recv	0.000013	mg/l	J	0.000009	0.0002
SS-01	13-Sep-18	16:30	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-05A	13-Sep-18	14:45	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-06G	13-Sep-18	13:45	S-ROUTINE	Silver		Total Recv	0.000017	mg/l	J	0.000009	0.0002
SS-07	13-Sep-18	13:15	S-ROUTINE	Silver		Total Recv	0.00001	mg/l	J	0.000009	0.0002
SS-08	13-Sep-18	12:00	S-ROUTINE	Silver		Total Recv	0.000017	mg/l	J	0.000009	0.0002
SS-10A	13-Sep-18	11:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11C	13-Sep-18	9:45	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11D	13-Sep-18	8:45	S-ROUTINE	Silver		Total Recv	0.000028	mg/l	J	0.000009	0.0002
SS-10A	13-Sep-18	10:45	QC-FB	Sodium		Dissolved	0.02	mg/l	J	0.02	1
SS-11D	13-Sep-18	8:45	QC-FD	Sodium		Dissolved	35	mg/l		0.02	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Sodium		Dissolved	11	mg/l		0.02	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Sodium		Dissolved	15	mg/l		0.02	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Sodium		Dissolved	22	mg/l		0.02	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Sodium		Dissolved	30	mg/l		0.02	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Sodium		Dissolved	32	mg/l		0.02	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	11:15	S-ROUTINE	Sodium		Dissolved	33	mg/l		0.02	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Sodium		Dissolved	36	mg/l		0.02	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Sodium		Dissolved	35	mg/l		0.02	1
SS-10A	13-Sep-18	10:45	QC-FB	Sodium		Total Recv	<0.6	mg/l		0.6	1
SS-11D	13-Sep-18	8:45	QC-FD	Sodium		Total Recv	37	mg/l		0.03	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Sodium		Total Recv	12	mg/l		0.03	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Sodium		Total Recv	16	mg/l		0.03	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Sodium		Total Recv	23	mg/l		0.03	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Sodium		Total Recv	32	mg/l		0.03	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Sodium		Total Recv	34	mg/l		0.03	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Sodium		Total Recv	35	mg/l		0.03	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Sodium		Total Recv	38	mg/l		0.03	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Sodium		Total Recv	37	mg/l		0.03	1
SS-01	13-Sep-18	16:30	F-MSR/OBS	Specific conductance		NA	252.7	uS/cm			
SS-05A	13-Sep-18	14:45	F-MSR/OBS	Specific conductance		NA	150	uS/cm			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	Specific conductance		NA	433.6	uS/cm			
SS-07	13-Sep-18	13:15	F-MSR/OBS	Specific conductance		NA	451.2	uS/cm			
SS-08	13-Sep-18	12:00	F-MSR/OBS	Specific conductance		NA	470.3	uS/cm			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	Specific conductance		NA	473.6	uS/cm			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	Specific conductance		NA	543.9	uS/cm			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	Specific conductance		NA	499.5	uS/cm			
SS-10A	13-Sep-18	10:45	QC-FB	Sulfate		Total	0.02	mg/l	J	0.01	1
SS-11D	13-Sep-18	8:45	QC-FD	Sulfate		Total	107	mg/l		0.01	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Sulfate		Total	27	mg/l		0.01	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Sulfate		Total	34	mg/l		0.01	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Sulfate		Total	104	mg/l		0.01	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Sulfate		Total	92	mg/l		0.01	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Sulfate		Total	105	mg/l		0.01	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Sulfate		Total	108	mg/l		0.01	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Sulfate		Total	113	mg/l		0.01	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Sulfate		Total	106	mg/l		0.01	1
SS-01	13-Sep-18	16:30	F-MSR/OBS	Temperature, water		NA	10.9	deg C			
SS-05A	13-Sep-18	14:45	F-MSR/OBS	Temperature, water		NA	11.7	deg C			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	Temperature, water		NA	11.9	deg C			
SS-07	13-Sep-18	13:15	F-MSR/OBS	Temperature, water		NA	14.7	deg C			
SS-08	13-Sep-18	12:00	F-MSR/OBS	Temperature, water		NA	13	deg C			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	Temperature, water		NA	11.6	deg C			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	Temperature, water		NA	10.8	deg C			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	Temperature, water		NA	10.3	deg C			
SS-10A	13-Sep-18	10:45	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.03	mg/l		0.03	0.05
SS-11D	13-Sep-18	8:45	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	1.26	mg/l		0.03	0.05
SS-01	13-Sep-18	16:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.17	mg/l		0.03	0.05
SS-05A	13-Sep-18	14:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.26	mg/l		0.03	0.05
SS-06G	13-Sep-18	13:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.51	mg/l		0.03	0.05
SS-07	13-Sep-18	13:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.94	mg/l		0.03	0.05
SS-08	13-Sep-18	12:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.29	mg/l		0.03	0.05
SS-10A	13-Sep-18	11:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.2	mg/l		0.03	0.05

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	13-Sep-18	9:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.29	mg/l		0.03	0.05
SS-11D	13-Sep-18	8:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.23	mg/l		0.03	0.05
SS-10A	13-Sep-18	10:45	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	0.0016	mg/l	J	0.0004	0.003
SS-11D	13-Sep-18	8:45	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.064	mg/l		0.0004	0.003
SS-01	13-Sep-18	16:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.076	mg/l		0.0004	0.003
SS-05A	13-Sep-18	14:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.088	mg/l		0.0004	0.003
SS-06G	13-Sep-18	13:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.063	mg/l		0.0004	0.003
SS-07	13-Sep-18	13:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.051	mg/l		0.0004	0.003
SS-08	13-Sep-18	12:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.052	mg/l		0.0004	0.003
SS-10A	13-Sep-18	11:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.059	mg/l		0.0004	0.003
SS-11C	13-Sep-18	9:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.057	mg/l		0.0004	0.003
SS-11D	13-Sep-18	8:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.065	mg/l		0.0004	0.003
SS-10A	13-Sep-18	10:45	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-11D	13-Sep-18	8:45	QC-FD	Total suspended solids		NA	2	mg/l		0.3	1
SS-01	13-Sep-18	16:30	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Total suspended solids		NA	3	mg/l		0.3	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Total suspended solids		NA	1	mg/l		0.3	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Total suspended solids		NA	3	mg/l		0.3	1
SS-01	13-Sep-18	16:30	F-MSR/OBS	Turbidity		NA	2.4	NTU			
SS-05A	13-Sep-18	14:45	F-MSR/OBS	Turbidity		NA	2.6	NTU			
SS-06G	13-Sep-18	13:45	F-MSR/OBS	Turbidity		NA	2.7	NTU			
SS-07	13-Sep-18	13:15	F-MSR/OBS	Turbidity		NA	1.2	NTU			
SS-08	13-Sep-18	12:00	F-MSR/OBS	Turbidity		NA	2.2	NTU			
SS-10A	13-Sep-18	11:15	F-MSR/OBS	Turbidity		NA	1.3	NTU			
SS-11C	13-Sep-18	9:45	F-MSR/OBS	Turbidity		NA	2	NTU			
SS-11D	13-Sep-18	8:45	F-MSR/OBS	Turbidity		NA	2.5	NTU			
SS-10A	13-Sep-18	10:45	QC-FB	Uranium-238		Dissolved	<0.00001	mg/l		0.00001	0.0002
SS-11D	13-Sep-18	8:45	QC-FD	Uranium-238		Dissolved	0.0051	mg/l		0.00001	0.0002
SS-01	13-Sep-18	16:30	S-ROUTINE	Uranium-238		Dissolved	0.0034	mg/l		0.00001	0.0002
SS-05A	13-Sep-18	14:45	S-ROUTINE	Uranium-238		Dissolved	0.0041	mg/l		0.00001	0.0002
SS-06G	13-Sep-18	13:45	S-ROUTINE	Uranium-238		Dissolved	0.0054	mg/l		0.00001	0.0002
SS-07	13-Sep-18	13:15	S-ROUTINE	Uranium-238		Dissolved	0.0045	mg/l		0.00001	0.0002
SS-08	13-Sep-18	12:00	S-ROUTINE	Uranium-238		Dissolved	0.0053	mg/l		0.00001	0.0002
SS-10A	13-Sep-18	11:15	S-ROUTINE	Uranium-238		Dissolved	0.0051	mg/l		0.00001	0.0002
SS-11C	13-Sep-18	9:45	S-ROUTINE	Uranium-238		Dissolved	0.0054	mg/l		0.00001	0.0002
SS-11D	13-Sep-18	8:45	S-ROUTINE	Uranium-238		Dissolved	0.0052	mg/l		0.00001	0.0002
SS-10A	13-Sep-18	10:45	QC-FB	Uranium-238		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11D	13-Sep-18	8:45	QC-FD	Uranium-238		Total Recv	0.0053	mg/l		0.000009	0.0002
SS-01	13-Sep-18	16:30	S-ROUTINE	Uranium-238		Total Recv	0.0036	mg/l		0.000009	0.0002
SS-05A	13-Sep-18	14:45	S-ROUTINE	Uranium-238		Total Recv	0.0044	mg/l		0.000009	0.0002
SS-06G	13-Sep-18	13:45	S-ROUTINE	Uranium-238		Total Recv	0.0056	mg/l		0.000009	0.0002
SS-07	13-Sep-18	13:15	S-ROUTINE	Uranium-238		Total Recv	0.0046	mg/l		0.000009	0.0002
SS-08	13-Sep-18	12:00	S-ROUTINE	Uranium-238		Total Recv	0.0056	mg/l		0.000009	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	13-Sep-18	11:15	S-ROUTINE	Uranium-238		Total Recv	0.0054	mg/l		0.000009	0.0002
SS-11C	13-Sep-18	9:45	S-ROUTINE	Uranium-238		Total Recv	0.0055	mg/l		0.000009	0.0002
SS-11D	13-Sep-18	8:45	S-ROUTINE	Uranium-238		Total Recv	0.0054	mg/l		0.000009	0.0002
SS-10A	13-Sep-18	10:45	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-11D	13-Sep-18	8:45	QC-FD	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Vanadium		Dissolved	0.0023	mg/l	J	0.00007	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Vanadium		Dissolved	0.0026	mg/l	J	0.00007	0.1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Vanadium		Dissolved	0.0022	mg/l	J	0.00007	0.1
SS-07	13-Sep-18	13:15	S-ROUTINE	Vanadium		Dissolved	0.0021	mg/l	J	0.00007	0.1
SS-08	13-Sep-18	12:00	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Vanadium		Dissolved	0.0015	mg/l	J	0.00007	0.1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Vanadium		Dissolved	0.0018	mg/l	J	0.00007	0.1
SS-10A	13-Sep-18	10:45	QC-FB	Vanadium		Total Recv	0.0016	mg/l	J	0.00002	0.1
SS-11D	13-Sep-18	8:45	QC-FD	Vanadium		Total Recv	0.0031	mg/l	J	0.00002	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Vanadium		Total Recv	0.0039	mg/l	J	0.00002	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Vanadium		Total Recv	0.0044	mg/l	J	0.00002	0.1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Vanadium		Total Recv	0.0035	mg/l	J	0.00002	0.1
SS-07	13-Sep-18	13:15	S-ROUTINE	Vanadium		Total Recv	0.0035	mg/l	J	0.00002	0.1
SS-08	13-Sep-18	12:00	S-ROUTINE	Vanadium		Total Recv	0.0033	mg/l	J	0.00002	0.1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Vanadium		Total Recv	0.0029	mg/l	J	0.00002	0.1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Vanadium		Total Recv	0.003	mg/l	J	0.00002	0.1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Vanadium		Total Recv	0.0032	mg/l	J	0.00002	0.1
SS-10A	13-Sep-18	10:45	QC-FB	Zinc		Dissolved	0.008	mg/l	J	0.0003	0.008
SS-11D	13-Sep-18	8:45	QC-FD	Zinc		Dissolved	0.073	mg/l		0.0003	0.008
SS-01	13-Sep-18	16:30	S-ROUTINE	Zinc		Dissolved	0.0036	mg/l	J	0.0003	0.008
SS-05A	13-Sep-18	14:45	S-ROUTINE	Zinc		Dissolved	0.01	mg/l		0.0003	0.008
SS-06G	13-Sep-18	13:45	S-ROUTINE	Zinc		Dissolved	0.013	mg/l		0.0003	0.008
SS-07	13-Sep-18	13:15	S-ROUTINE	Zinc		Dissolved	0.031	mg/l		0.0003	0.008
SS-08	13-Sep-18	12:00	S-ROUTINE	Zinc		Dissolved	0.039	mg/l		0.0003	0.008
SS-10A	13-Sep-18	11:15	S-ROUTINE	Zinc		Dissolved	0.055	mg/l		0.0003	0.008
SS-11C	13-Sep-18	9:45	S-ROUTINE	Zinc		Dissolved	0.244	mg/l		0.0003	0.008
SS-11D	13-Sep-18	8:45	S-ROUTINE	Zinc		Dissolved	0.074	mg/l		0.0003	0.008
SS-10A	13-Sep-18	10:45	QC-FB	Zinc		Total Recv	0.002	mg/l	J	0.001	0.008
SS-11D	13-Sep-18	8:45	QC-FD	Zinc		Total Recv	0.083	mg/l		0.001	0.008
SS-01	13-Sep-18	16:30	S-ROUTINE	Zinc		Total Recv	0.004	mg/l	J	0.001	0.008
SS-05A	13-Sep-18	14:45	S-ROUTINE	Zinc		Total Recv	0.012	mg/l		0.001	0.008
SS-06G	13-Sep-18	13:45	S-ROUTINE	Zinc		Total Recv	0.022	mg/l		0.001	0.008
SS-07	13-Sep-18	13:15	S-ROUTINE	Zinc		Total Recv	0.036	mg/l		0.001	0.008
SS-08	13-Sep-18	12:00	S-ROUTINE	Zinc		Total Recv	0.054	mg/l		0.001	0.008
SS-10A	13-Sep-18	11:15	S-ROUTINE	Zinc		Total Recv	0.07	mg/l		0.001	0.008
SS-11C	13-Sep-18	9:45	S-ROUTINE	Zinc		Total Recv	0.085	mg/l		0.001	0.008
SS-11D	13-Sep-18	8:45	S-ROUTINE	Zinc		Total Recv	0.083	mg/l		0.001	0.008

Table C-4. Fourth quarter surface water results for the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	28-Nov-18	10:00	QC-FB	Alkalinity, total	as CaCO3	Total	<2	mg/l		2	4
SS-15B	28-Nov-18	13:15	QC-FD	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-13	28-Nov-18	17:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-14	28-Nov-18	16:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-15B	28-Nov-18	13:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-16B	28-Nov-18	11:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-17D	28-Nov-18	10:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-19	28-Nov-18	9:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-17D	28-Nov-18	10:00	QC-FB	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15B	28-Nov-18	13:15	QC-FD	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-13	28-Nov-18	17:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-14	28-Nov-18	16:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15B	28-Nov-18	13:15	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-16B	28-Nov-18	11:30	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-17D	28-Nov-18	10:15	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-19	28-Nov-18	9:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-17D	28-Nov-18	10:00	QC-FB	Aluminum		Total Recv	<0.003	mg/l		0.003	0.009
SS-15B	28-Nov-18	13:15	QC-FD	Aluminum		Total Recv	0.055	mg/l		0.003	0.009
SS-13	28-Nov-18	17:00	S-ROUTINE	Aluminum		Total Recv	0.119	mg/l		0.003	0.009
SS-14	28-Nov-18	16:00	S-ROUTINE	Aluminum		Total Recv	0.099	mg/l		0.003	0.009
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Aluminum		Total Recv	0.078	mg/l		0.003	0.009
SS-15B	28-Nov-18	13:15	S-ROUTINE	Aluminum		Total Recv	0.057	mg/l		0.003	0.009
SS-16B	28-Nov-18	11:30	S-ROUTINE	Aluminum		Total Recv	0.115	mg/l		0.003	0.009
SS-17D	28-Nov-18	10:15	S-ROUTINE	Aluminum		Total Recv	0.166	mg/l		0.003	0.009
SS-19	28-Nov-18	9:00	S-ROUTINE	Aluminum		Total Recv	0.182	mg/l		0.003	0.009
SS-17D	28-Nov-18	10:00	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15B	28-Nov-18	13:15	QC-FD	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-13	28-Nov-18	17:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-14	28-Nov-18	16:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15B	28-Nov-18	13:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-16B	28-Nov-18	11:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-17D	28-Nov-18	10:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-19	28-Nov-18	9:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-17D	28-Nov-18	10:00	QC-FB	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-15B	28-Nov-18	13:15	QC-FD	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-13	28-Nov-18	17:00	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-14	28-Nov-18	16:00	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-16B	28-Nov-18	11:30	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-17D	28-Nov-18	10:15	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-19	28-Nov-18	9:00	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005

SS-17D	28-Nov-18	10:00	QC-FB	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-15B	28-Nov-18	13:15	QC-FD	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-13	28-Nov-18	17:00	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-14	28-Nov-18	16:00	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-16B	28-Nov-18	11:30	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-17D	28-Nov-18	10:15	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-19	28-Nov-18	9:00	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-17D	28-Nov-18	10:00	QC-FB	Arsenic		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Arsenic		Total Recv	<0.00004	mg/l		0.00004	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Barium		Dissolved	<0.00002	mg/l		0.00002	0.003
SS-15B	28-Nov-18	13:15	QC-FD	Barium		Dissolved	0.038	mg/l		0.00002	0.003
SS-13	28-Nov-18	17:00	S-ROUTINE	Barium		Dissolved	0.043	mg/l		0.00002	0.003
SS-14	28-Nov-18	16:00	S-ROUTINE	Barium		Dissolved	0.042	mg/l		0.00002	0.003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Barium		Dissolved	0.042	mg/l		0.00002	0.003
SS-15B	28-Nov-18	13:15	S-ROUTINE	Barium		Dissolved	0.039	mg/l		0.00002	0.003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Barium		Dissolved	0.039	mg/l		0.00002	0.003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Barium		Dissolved	0.039	mg/l		0.00002	0.003
SS-19	28-Nov-18	9:00	S-ROUTINE	Barium		Dissolved	0.041	mg/l		0.00002	0.003
SS-17D	28-Nov-18	10:00	QC-FB	Barium		Total Recv	<0.00009	mg/l		0.00009	0.003
SS-15B	28-Nov-18	13:15	QC-FD	Barium		Total Recv	0.038	mg/l		0.00009	0.003
SS-13	28-Nov-18	17:00	S-ROUTINE	Barium		Total Recv	0.044	mg/l		0.00009	0.003
SS-14	28-Nov-18	16:00	S-ROUTINE	Barium		Total Recv	0.043	mg/l		0.00009	0.003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Barium		Total Recv	0.044	mg/l		0.00009	0.003
SS-15B	28-Nov-18	13:15	S-ROUTINE	Barium		Total Recv	0.038	mg/l		0.00009	0.003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Barium		Total Recv	0.04	mg/l		0.00009	0.003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Barium		Total Recv	0.039	mg/l		0.00009	0.003
SS-19	28-Nov-18	9:00	S-ROUTINE	Barium		Total Recv	0.038	mg/l		0.00009	0.003
SS-17D	28-Nov-18	10:00	QC-FB	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15B	28-Nov-18	13:15	QC-FD	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-13	28-Nov-18	17:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-14	28-Nov-18	16:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15B	28-Nov-18	13:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-16B	28-Nov-18	11:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008

SS-17D	28-Nov-18	10:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-19	28-Nov-18	9:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-17D	28-Nov-18	10:00	QC-FB	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15B	28-Nov-18	13:15	QC-FD	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-13	28-Nov-18	17:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-14	28-Nov-18	16:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15B	28-Nov-18	13:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-16B	28-Nov-18	11:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-17D	28-Nov-18	10:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-19	28-Nov-18	9:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-17D	28-Nov-18	10:00	QC-FB	Bicarbonate	as HCO3	Total	<2	mg/l		2	4
SS-15B	28-Nov-18	13:15	QC-FD	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-13	28-Nov-18	17:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-14	28-Nov-18	16:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-15B	28-Nov-18	13:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-16B	28-Nov-18	11:30	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-17D	28-Nov-18	10:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-19	28-Nov-18	9:00	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-17D	28-Nov-18	10:00	QC-FB	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-15B	28-Nov-18	13:15	QC-FD	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-19	28-Nov-18	9:00	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-17D	28-Nov-18	10:00	QC-FB	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-15B	28-Nov-18	13:15	QC-FD	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-19	28-Nov-18	9:00	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-17D	28-Nov-18	10:00	QC-FB	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-15B	28-Nov-18	13:15	QC-FD	Cadmium		Dissolved	0.00026	mg/l		0.00003	0.00003
SS-13	28-Nov-18	17:00	S-ROUTINE	Cadmium		Dissolved	0.00032	mg/l		0.00003	0.00003
SS-14	28-Nov-18	16:00	S-ROUTINE	Cadmium		Dissolved	0.0003	mg/l		0.00003	0.00003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cadmium		Dissolved	0.00029	mg/l		0.00003	0.00003
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cadmium		Dissolved	0.00026	mg/l		0.00003	0.00003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cadmium		Dissolved	0.00021	mg/l		0.00003	0.00003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cadmium		Dissolved	0.00031	mg/l		0.00003	0.00003
SS-19	28-Nov-18	9:00	S-ROUTINE	Cadmium		Dissolved	0.00033	mg/l		0.00003	0.00003
SS-17D	28-Nov-18	10:00	QC-FB	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-15B	28-Nov-18	13:15	QC-FD	Cadmium		Total Recv	0.00027	mg/l		0.00003	0.00003
SS-13	28-Nov-18	17:00	S-ROUTINE	Cadmium		Total Recv	0.00037	mg/l		0.00003	0.00003
SS-14	28-Nov-18	16:00	S-ROUTINE	Cadmium		Total Recv	0.00034	mg/l		0.00003	0.00003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cadmium		Total Recv	0.00035	mg/l		0.00003	0.00003

SS-15B	28-Nov-18	13:15	S-ROUTINE	Cadmium		Total Recv	0.00028	mg/l		0.00003	0.00003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cadmium		Total Recv	0.00029	mg/l		0.00003	0.00003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cadmium		Total Recv	0.00037	mg/l		0.00003	0.00003
SS-19	28-Nov-18	9:00	S-ROUTINE	Cadmium		Total Recv	0.00034	mg/l		0.00003	0.00003
SS-17D	28-Nov-18	10:00	QC-FB	Calcium		Dissolved	<0.07	mg/l		0.07	1
SS-15B	28-Nov-18	13:15	QC-FD	Calcium		Dissolved	54	mg/l		0.07	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Calcium		Dissolved	59	mg/l		0.07	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Calcium		Dissolved	59	mg/l		0.07	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Calcium		Dissolved	60	mg/l		0.07	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Calcium		Dissolved	53	mg/l		0.07	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Calcium		Dissolved	54	mg/l		0.07	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Calcium		Dissolved	54	mg/l		0.07	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Calcium		Dissolved	53	mg/l		0.07	1
SS-17D	28-Nov-18	10:00	QC-FB	Calcium		Total Recv	<0.09	mg/l		0.09	1
SS-15B	28-Nov-18	13:15	QC-FD	Calcium		Total Recv	53	mg/l		0.09	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Calcium		Total Recv	64	mg/l		0.09	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Calcium		Total Recv	63	mg/l		0.09	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Calcium		Total Recv	62	mg/l		0.09	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Calcium		Total Recv	55	mg/l		0.09	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Calcium		Total Recv	55	mg/l		0.09	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Calcium		Total Recv	57	mg/l		0.09	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Calcium		Total Recv	55	mg/l		0.09	1
SS-17D	28-Nov-18	10:00	QC-FB	Chloride		Total	<0.009	mg/l		0.009	1
SS-15B	28-Nov-18	13:15	QC-FD	Chloride		Total	52	mg/l		0.009	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Chloride		Total	58	mg/l		0.009	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Chloride		Total	65	mg/l		0.009	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Chloride		Total	77	mg/l		0.009	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Chloride		Total	52	mg/l		0.009	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Chloride		Total	41	mg/l		0.009	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Chloride		Total	38	mg/l		0.009	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Chloride		Total	37	mg/l		0.009	1
SS-17D	28-Nov-18	10:00	QC-FB	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15B	28-Nov-18	13:15	QC-FD	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-13	28-Nov-18	17:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-14	28-Nov-18	16:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15B	28-Nov-18	13:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-16B	28-Nov-18	11:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-17D	28-Nov-18	10:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-19	28-Nov-18	9:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-17D	28-Nov-18	10:00	QC-FB	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-15B	28-Nov-18	13:15	QC-FD	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-13	28-Nov-18	17:00	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-14	28-Nov-18	16:00	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-15B	28-Nov-18	13:15	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-16B	28-Nov-18	11:30	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-17D	28-Nov-18	10:15	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-19	28-Nov-18	9:00	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-17D	28-Nov-18	10:00	QC-FB	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15B	28-Nov-18	13:15	QC-FD	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-13	28-Nov-18	17:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01

SS-14	28-Nov-18	16:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-19	28-Nov-18	9:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-17D	28-Nov-18	10:00	QC-FB	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-15B	28-Nov-18	13:15	QC-FD	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-13	28-Nov-18	17:00	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-14	28-Nov-18	16:00	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-19	28-Nov-18	9:00	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-17D	28-Nov-18	10:00	QC-FB	Copper		Dissolved	<0.0001	mg/l		0.0001	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Copper		Dissolved	0.013	mg/l		0.0001	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Copper		Dissolved	0.017	mg/l		0.0001	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Copper		Dissolved	0.018	mg/l		0.0001	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Copper		Dissolved	0.017	mg/l		0.0001	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Copper		Dissolved	0.013	mg/l		0.0001	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Copper		Dissolved	0.011	mg/l		0.0001	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Copper		Dissolved	0.013	mg/l		0.0001	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Copper		Dissolved	0.012	mg/l		0.0001	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Copper		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Copper		Total Recv	0.024	mg/l		0.0002	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Copper		Total Recv	0.023	mg/l		0.0002	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Copper		Total Recv	0.021	mg/l		0.0002	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Copper		Total Recv	0.016	mg/l		0.0002	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Copper		Total Recv	0.018	mg/l		0.0002	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Copper		Total Recv	0.018	mg/l		0.0002	0.001
SS-13	28-Nov-18	17:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	12.4	mg/l			
SS-14	28-Nov-18	16:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	14	mg/l			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	14.2	mg/l			
SS-15G	28-Nov-18	14:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	14.4	mg/l			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	14.4	mg/l			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	14.4	mg/l			
SS-17D	28-Nov-18	10:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	14.4	mg/l			
SS-19	28-Nov-18	9:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	15.4	mg/l			
SS-13	28-Nov-18	17:00	F-MSR/OBS	Dissolved oxygen saturation		NA	117	%			
SS-14	28-Nov-18	16:00	F-MSR/OBS	Dissolved oxygen saturation		NA	133	%			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	Dissolved oxygen saturation		NA	133	%			
SS-15G	28-Nov-18	14:00	F-MSR/OBS	Dissolved oxygen saturation		NA	126	%			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	Dissolved oxygen saturation		NA	132	%			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	Dissolved oxygen saturation		NA	131	%			
SS-17D	28-Nov-18	10:15	F-MSR/OBS	Dissolved oxygen saturation		NA	126	%			
SS-19	28-Nov-18	9:00	F-MSR/OBS	Dissolved oxygen saturation		NA	133	%			
SS-13	28-Nov-18	17:00	F-MSR/OBS	Flow		NA	38.21	ft3/sec			
SS-14	28-Nov-18	16:00	F-MSR/OBS	Flow		NA	40.09	ft3/sec			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	Flow		NA	39.06	ft3/sec			

SS-15G	28-Nov-18	14:00	F-MSR/OBS	Flow		NA	10.6	ft3/sec			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	Flow		NA	53.73	ft3/sec			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	Flow		NA	53.84	ft3/sec			
SS-19	28-Nov-18	9:00	F-MSR/OBS	Flow		NA	62.6	ft3/sec			
SS-15B	28-Nov-18	13:15	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	181	mg/l		1	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	220	mg/l		1	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	220	mg/l		1	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	215	mg/l		1	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	188	mg/l		1	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	187	mg/l		1	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	191	mg/l		1	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	185	mg/l		1	1
SS-17D	28-Nov-18	10:00	QC-FB	Hardness, Ca, Mg	as CaCO3	Total	<1	mg/l		1	1
SS-17D	28-Nov-18	10:00	QC-FB	Iron		Dissolved	<0.002	mg/l		0.002	0.02
SS-15B	28-Nov-18	13:15	QC-FD	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-13	28-Nov-18	17:00	S-ROUTINE	Iron		Dissolved	0.04	mg/l		0.002	0.02
SS-14	28-Nov-18	16:00	S-ROUTINE	Iron		Dissolved	0.04	mg/l		0.002	0.02
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-15B	28-Nov-18	13:15	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-16B	28-Nov-18	11:30	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-17D	28-Nov-18	10:15	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-19	28-Nov-18	9:00	S-ROUTINE	Iron		Dissolved	0.03	mg/l		0.002	0.02
SS-17D	28-Nov-18	10:00	QC-FB	Iron		Total Recv	<0.004	mg/l		0.004	0.02
SS-15B	28-Nov-18	13:15	QC-FD	Iron		Total Recv	0.12	mg/l		0.004	0.02
SS-13	28-Nov-18	17:00	S-ROUTINE	Iron		Total Recv	0.22	mg/l		0.004	0.02
SS-14	28-Nov-18	16:00	S-ROUTINE	Iron		Total Recv	0.2	mg/l		0.004	0.02
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Iron		Total Recv	0.16	mg/l		0.004	0.02
SS-15B	28-Nov-18	13:15	S-ROUTINE	Iron		Total Recv	0.12	mg/l		0.004	0.02
SS-16B	28-Nov-18	11:30	S-ROUTINE	Iron		Total Recv	0.19	mg/l		0.004	0.02
SS-17D	28-Nov-18	10:15	S-ROUTINE	Iron		Total Recv	0.25	mg/l		0.004	0.02
SS-19	28-Nov-18	9:00	S-ROUTINE	Iron		Total Recv	0.25	mg/l		0.004	0.02
SS-17D	28-Nov-18	10:00	QC-FB	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-15B	28-Nov-18	13:15	QC-FD	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-13	28-Nov-18	17:00	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-14	28-Nov-18	16:00	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-15B	28-Nov-18	13:15	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-19	28-Nov-18	9:00	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-17D	28-Nov-18	10:00	QC-FB	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-15B	28-Nov-18	13:15	QC-FD	Lead		Total Recv	0.0005	mg/l		0.00004	0.0003
SS-13	28-Nov-18	17:00	S-ROUTINE	Lead		Total Recv	0.0009	mg/l		0.00004	0.0003
SS-14	28-Nov-18	16:00	S-ROUTINE	Lead		Total Recv	0.0007	mg/l		0.00004	0.0003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Lead		Total Recv	0.0007	mg/l		0.00004	0.0003
SS-15B	28-Nov-18	13:15	S-ROUTINE	Lead		Total Recv	0.0005	mg/l		0.00004	0.0003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Lead		Total Recv	0.0008	mg/l		0.00004	0.0003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Lead		Total Recv	0.0011	mg/l		0.00004	0.0003
SS-19	28-Nov-18	9:00	S-ROUTINE	Lead		Total Recv	0.0012	mg/l		0.00004	0.0003
SS-17D	28-Nov-18	10:00	QC-FB	Magnesium		Dissolved	<0.01	mg/l		0.01	1
SS-15B	28-Nov-18	13:15	QC-FD	Magnesium		Dissolved	12	mg/l		0.1	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1

SS-14	28-Nov-18	16:00	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.1	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Magnesium		Dissolved	11	mg/l		0.1	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Magnesium		Dissolved	11	mg/l		0.1	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Magnesium		Dissolved	11	mg/l		0.1	1
SS-17D	28-Nov-18	10:00	QC-FB	Magnesium		Total Recv	<0.009	mg/l		0.009	1
SS-15B	28-Nov-18	13:15	QC-FD	Magnesium		Total Recv	12	mg/l		0.2	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.2	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.2	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.2	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Magnesium		Total Recv	12	mg/l		0.2	1
SS-17D	28-Nov-18	10:00	QC-FB	Manganese		Dissolved	<0.0003	mg/l		0.0003	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Manganese		Dissolved	0.074	mg/l		0.0003	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Manganese		Dissolved	0.139	mg/l		0.0003	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Manganese		Dissolved	0.132	mg/l		0.0003	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Manganese		Dissolved	0.085	mg/l		0.0003	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Manganese		Dissolved	0.075	mg/l		0.0003	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Manganese		Dissolved	0.084	mg/l		0.0003	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Manganese		Dissolved	0.07	mg/l		0.0003	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Manganese		Dissolved	0.066	mg/l		0.0003	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Manganese		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Manganese		Total Recv	0.081	mg/l		0.0003	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Manganese		Total Recv	0.163	mg/l		0.0003	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Manganese		Total Recv	0.141	mg/l		0.0003	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Manganese		Total Recv	0.098	mg/l		0.0003	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Manganese		Total Recv	0.082	mg/l		0.0003	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Manganese		Total Recv	0.095	mg/l		0.0003	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Manganese		Total Recv	0.084	mg/l		0.0003	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Manganese		Total Recv	0.077	mg/l		0.0003	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-15B	28-Nov-18	13:15	QC-FD	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-13	28-Nov-18	17:00	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-14	28-Nov-18	16:00	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Mercury		Dissolved	0.000005	mg/l		0.0000009	0.000005
SS-16B	28-Nov-18	11:30	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-17D	28-Nov-18	10:15	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-19	28-Nov-18	9:00	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-17D	28-Nov-18	10:00	QC-FB	Mercury		Total Recv	<0.0009	mg/l		0.0009	0.005
SS-13	28-Nov-18	17:00	S-ROUTINE	Mercury		Total Recv	0.000008	mg/l		0.0000009	0.000005
SS-14	28-Nov-18	16:00	S-ROUTINE	Mercury		Total Recv	0.000006	mg/l		0.0000009	0.000005
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Mercury		Total Recv	0.000007	mg/l		0.0000009	0.000005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Mercury		Total Recv	0.000005	mg/l		0.0000009	0.000005
SS-16B	28-Nov-18	11:30	S-ROUTINE	Mercury		Total Recv	0.000007	mg/l		0.0000009	0.000005
SS-17D	28-Nov-18	10:15	S-ROUTINE	Mercury		Total Recv	0.000008	mg/l		0.0000009	0.000005
SS-19	28-Nov-18	9:00	S-ROUTINE	Mercury		Total Recv	0.00001	mg/l		0.0000009	0.000005
SS-17D	28-Nov-18	10:00	QC-FB	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005

SS-15B	28-Nov-18	13:15	QC-FD	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-13	28-Nov-18	17:00	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-14	28-Nov-18	16:00	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-16B	28-Nov-18	11:30	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-17D	28-Nov-18	10:15	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-19	28-Nov-18	9:00	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-17D	28-Nov-18	10:00	QC-FB	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-15B	28-Nov-18	13:15	QC-FD	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-13	28-Nov-18	17:00	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-14	28-Nov-18	16:00	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-15B	28-Nov-18	13:15	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-16B	28-Nov-18	11:30	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-17D	28-Nov-18	10:15	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-19	28-Nov-18	9:00	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-17D	28-Nov-18	10:00	QC-FB	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-15B	28-Nov-18	13:15	QC-FD	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-13	28-Nov-18	17:00	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-14	28-Nov-18	16:00	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-15B	28-Nov-18	13:15	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-16B	28-Nov-18	11:30	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-17D	28-Nov-18	10:15	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-19	28-Nov-18	9:00	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-17D	28-Nov-18	10:00	QC-FB	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-15B	28-Nov-18	13:15	QC-FD	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-13	28-Nov-18	17:00	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-14	28-Nov-18	16:00	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-15B	28-Nov-18	13:15	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-16B	28-Nov-18	11:30	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-17D	28-Nov-18	10:15	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-19	28-Nov-18	9:00	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-17D	28-Nov-18	10:00	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02
SS-15B	28-Nov-18	13:15	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.98	mg/l		0.009	0.02
SS-13	28-Nov-18	17:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.88	mg/l		0.009	0.02
SS-14	28-Nov-18	16:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.91	mg/l		0.009	0.02
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.13	mg/l		0.009	0.02
SS-15B	28-Nov-18	13:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.97	mg/l		0.009	0.02
SS-16B	28-Nov-18	11:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.98	mg/l		0.009	0.02
SS-17D	28-Nov-18	10:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.72	mg/l		0.009	0.02
SS-19	28-Nov-18	9:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.76	mg/l		0.009	0.02
SS-13	28-Nov-18	17:00	F-MSR/OBS	pH		NA	7.53	None			
SS-14	28-Nov-18	16:00	F-MSR/OBS	pH		NA	7.68	None			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	pH		NA	8	None			
SS-15G	28-Nov-18	14:00	F-MSR/OBS	pH		NA	7.79	None			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	pH		NA	7.88	None			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	pH		NA	7.74	None			
SS-17D	28-Nov-18	10:15	F-MSR/OBS	pH		NA	7.62	None			
SS-19	28-Nov-18	9:00	F-MSR/OBS	pH		NA	7.41	None			

SS-17D	28-Nov-18	10:00	QC-FB	Potassium		Dissolved	<0.06	mg/l		0.06	1
SS-15B	28-Nov-18	13:15	QC-FD	Potassium		Dissolved	5	mg/l		0.06	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-17D	28-Nov-18	10:00	QC-FB	Potassium		Total Recv	<0.06	mg/l		0.06	1
SS-15B	28-Nov-18	13:15	QC-FD	Potassium		Total Recv	5	mg/l		0.06	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-17D	28-Nov-18	10:00	QC-FB	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-15B	28-Nov-18	13:15	QC-FD	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-13	28-Nov-18	17:00	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-14	28-Nov-18	16:00	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-15B	28-Nov-18	13:15	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-16B	28-Nov-18	11:30	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-17D	28-Nov-18	10:15	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-19	28-Nov-18	9:00	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-17D	28-Nov-18	10:00	QC-FB	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15B	28-Nov-18	13:15	QC-FD	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-13	28-Nov-18	17:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-14	28-Nov-18	16:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15B	28-Nov-18	13:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-16B	28-Nov-18	11:30	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-17D	28-Nov-18	10:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-19	28-Nov-18	9:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-17D	28-Nov-18	10:00	QC-FB	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15B	28-Nov-18	13:15	QC-FD	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-13	28-Nov-18	17:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-14	28-Nov-18	16:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15B	28-Nov-18	13:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-16B	28-Nov-18	11:30	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002

SS-17D	28-Nov-18	10:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-19	28-Nov-18	9:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-17D	28-Nov-18	10:00	QC-FB	Sodium		Dissolved	<0.02	mg/l		0.02	1
SS-15B	28-Nov-18	13:15	QC-FD	Sodium		Dissolved	32	mg/l		0.02	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Sodium		Dissolved	35	mg/l		0.02	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Sodium		Dissolved	38	mg/l		0.02	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Sodium		Dissolved	44	mg/l		0.02	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Sodium		Dissolved	32	mg/l		0.02	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Sodium		Dissolved	27	mg/l		0.02	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Sodium		Dissolved	27	mg/l		0.02	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Sodium		Dissolved	28	mg/l		0.02	1
SS-17D	28-Nov-18	10:00	QC-FB	Sodium		Total Recv	<0.03	mg/l		0.03	1
SS-15B	28-Nov-18	13:15	QC-FD	Sodium		Total Recv	33	mg/l		0.03	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Sodium		Total Recv	36	mg/l		0.03	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Sodium		Total Recv	38	mg/l		0.03	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Sodium		Total Recv	45	mg/l		0.03	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Sodium		Total Recv	32	mg/l		0.03	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Sodium		Total Recv	28	mg/l		0.03	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Sodium		Total Recv	27	mg/l		0.03	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Sodium		Total Recv	27	mg/l		0.03	1
SS-13	28-Nov-18	17:00	F-MSR/OBS	Specific conductance		NA	1395	uS/cm			
SS-14	28-Nov-18	16:00	F-MSR/OBS	Specific conductance		NA	1441	uS/cm			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	Specific conductance		NA	1520	uS/cm			
SS-15G	28-Nov-18	14:00	F-MSR/OBS	Specific conductance		NA	575.3	uS/cm			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	Specific conductance		NA	1266	uS/cm			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	Specific conductance		NA	1194	uS/cm			
SS-17D	28-Nov-18	10:15	F-MSR/OBS	Specific conductance		NA	1206	uS/cm			
SS-19	28-Nov-18	9:00	F-MSR/OBS	Specific conductance		NA	1205	uS/cm			
SS-17D	28-Nov-18	10:00	QC-FB	Sulfate		Total	<0.01	mg/l		0.01	1
SS-15B	28-Nov-18	13:15	QC-FD	Sulfate		Total	78	mg/l		0.01	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Sulfate		Total	94	mg/l		0.01	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Sulfate		Total	94	mg/l		0.01	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Sulfate		Total	93	mg/l		0.01	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Sulfate		Total	78	mg/l		0.01	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Sulfate		Total	79	mg/l		0.01	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Sulfate		Total	86	mg/l		0.01	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Sulfate		Total	87	mg/l		0.01	1
SS-13	28-Nov-18	17:00	F-MSR/OBS	Temperature, water		NA	4.3	deg C			
SS-14	28-Nov-18	16:00	F-MSR/OBS	Temperature, water		NA	4.5	deg C			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	Temperature, water		NA	4	deg C			
SS-15G	28-Nov-18	14:00	F-MSR/OBS	Temperature, water		NA	1.7	deg C			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	Temperature, water		NA	3.3	deg C			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	Temperature, water		NA	3.1	deg C			
SS-17D	28-Nov-18	10:15	F-MSR/OBS	Temperature, water		NA	2.1	deg C			
SS-19	28-Nov-18	9:00	F-MSR/OBS	Temperature, water		NA	1.8	deg C			
SS-17D	28-Nov-18	10:00	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.03	mg/l		0.03	0.05
SS-15B	28-Nov-18	13:15	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	1.19	mg/l		0.03	0.05
SS-13	28-Nov-18	17:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.12	mg/l		0.03	0.05
SS-14	28-Nov-18	16:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.17	mg/l		0.03	0.05
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.38	mg/l		0.03	0.05
SS-15B	28-Nov-18	13:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.21	mg/l		0.03	0.05
SS-16B	28-Nov-18	11:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.22	mg/l		0.03	0.05

SS-17D	28-Nov-18	10:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.96	mg/l		0.03	0.05
SS-19	28-Nov-18	9:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.99	mg/l		0.03	0.05
SS-17D	28-Nov-18	10:00	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	<0.002	mg/l		0.002	0.003
SS-15B	28-Nov-18	13:15	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.056	mg/l		0.002	0.003
SS-13	28-Nov-18	17:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.079	mg/l		0.002	0.003
SS-14	28-Nov-18	16:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.07	mg/l		0.002	0.003
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.066	mg/l		0.002	0.003
SS-15B	28-Nov-18	13:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.058	mg/l		0.002	0.003
SS-16B	28-Nov-18	11:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.059	mg/l		0.002	0.003
SS-17D	28-Nov-18	10:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.063	mg/l		0.002	0.003
SS-19	28-Nov-18	9:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.064	mg/l		0.002	0.003
SS-17D	28-Nov-18	10:00	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-15B	28-Nov-18	13:15	QC-FD	Total suspended solids		NA	2	mg/l		0.3	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Total suspended solids		NA	4	mg/l		0.3	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Total suspended solids		NA	3	mg/l		0.3	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Total suspended solids		NA	4	mg/l		0.3	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Total suspended solids		NA	5	mg/l		0.3	1
SS-19	28-Nov-18	9:00	S-ROUTINE	Total suspended solids		NA	6	mg/l		0.3	1
SS-13	28-Nov-18	17:00	F-MSR/OBS	Turbidity		NA	3.5	NTU			
SS-14	28-Nov-18	16:00	F-MSR/OBS	Turbidity		NA	3	NTU			
SS-15A-2	28-Nov-18	14:30	F-MSR/OBS	Turbidity		NA	2.2	NTU			
SS-15G	28-Nov-18	14:00	F-MSR/OBS	Turbidity		NA	1.3	NTU			
SS-15B	28-Nov-18	13:15	F-MSR/OBS	Turbidity		NA	2.1	NTU			
SS-16B	28-Nov-18	11:30	F-MSR/OBS	Turbidity		NA	2.8	NTU			
SS-17D	28-Nov-18	10:15	F-MSR/OBS	Turbidity		NA	5.5	NTU			
SS-19	28-Nov-18	9:00	F-MSR/OBS	Turbidity		NA	3.7	NTU			
SS-17D	28-Nov-18	10:00	QC-FB	Uranium-238		Dissolved	<0.00001	mg/l		0.00001	0.0002
SS-15B	28-Nov-18	13:15	QC-FD	Uranium-238		Dissolved	0.0044	mg/l		0.00001	0.0002
SS-13	28-Nov-18	17:00	S-ROUTINE	Uranium-238		Dissolved	0.0058	mg/l		0.00001	0.0002
SS-14	28-Nov-18	16:00	S-ROUTINE	Uranium-238		Dissolved	0.0056	mg/l		0.00001	0.0002
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Uranium-238		Dissolved	0.0053	mg/l		0.00001	0.0002
SS-15B	28-Nov-18	13:15	S-ROUTINE	Uranium-238		Dissolved	0.0044	mg/l		0.00001	0.0002
SS-16B	28-Nov-18	11:30	S-ROUTINE	Uranium-238		Dissolved	0.0044	mg/l		0.00001	0.0002
SS-17D	28-Nov-18	10:15	S-ROUTINE	Uranium-238		Dissolved	0.0047	mg/l		0.00001	0.0002
SS-19	28-Nov-18	9:00	S-ROUTINE	Uranium-238		Dissolved	0.0051	mg/l		0.00001	0.0002
SS-17D	28-Nov-18	10:00	QC-FB	Uranium-238		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-15B	28-Nov-18	13:15	QC-FD	Uranium-238		Total Recv	0.0046	mg/l		0.000009	0.0002
SS-13	28-Nov-18	17:00	S-ROUTINE	Uranium-238		Total Recv	0.0062	mg/l		0.000009	0.0002
SS-14	28-Nov-18	16:00	S-ROUTINE	Uranium-238		Total Recv	0.006	mg/l		0.000009	0.0002
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Uranium-238		Total Recv	0.0058	mg/l		0.000009	0.0002
SS-15B	28-Nov-18	13:15	S-ROUTINE	Uranium-238		Total Recv	0.0046	mg/l		0.000009	0.0002
SS-16B	28-Nov-18	11:30	S-ROUTINE	Uranium-238		Total Recv	0.0048	mg/l		0.000009	0.0002
SS-17D	28-Nov-18	10:15	S-ROUTINE	Uranium-238		Total Recv	0.0049	mg/l		0.000009	0.0002
SS-19	28-Nov-18	9:00	S-ROUTINE	Uranium-238		Total Recv	0.0049	mg/l		0.000009	0.0002
SS-17D	28-Nov-18	10:00	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-15B	28-Nov-18	13:15	QC-FD	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1

SS-16B	28-Nov-18	11:30	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-19	28-Nov-18	9:00	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-17D	28-Nov-18	10:00	QC-FB	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-15B	28-Nov-18	13:15	QC-FD	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-19	28-Nov-18	9:00	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-17D	28-Nov-18	10:00	QC-FB	Zinc		Dissolved	0.012	mg/l		0.0003	0.008
SS-15B	28-Nov-18	13:15	QC-FD	Zinc		Dissolved	0.078	mg/l		0.0003	0.008
SS-13	28-Nov-18	17:00	S-ROUTINE	Zinc		Dissolved	0.099	mg/l		0.0003	0.008
SS-14	28-Nov-18	16:00	S-ROUTINE	Zinc		Dissolved	0.093	mg/l		0.0003	0.008
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Zinc		Dissolved	0.082	mg/l		0.0003	0.008
SS-15B	28-Nov-18	13:15	S-ROUTINE	Zinc		Dissolved	0.078	mg/l	B	0.0003	0.008
SS-16B	28-Nov-18	11:30	S-ROUTINE	Zinc		Dissolved	0.088	mg/l		0.0003	0.008
SS-17D	28-Nov-18	10:15	S-ROUTINE	Zinc		Dissolved	0.106	mg/l		0.0003	0.008
SS-19	28-Nov-18	9:00	S-ROUTINE	Zinc		Dissolved	0.104	mg/l		0.0003	0.008
SS-17D	28-Nov-18	10:00	QC-FB	Zinc		Total Recv	<0.001	mg/l		0.001	0.008
SS-15B	28-Nov-18	13:15	QC-FD	Zinc		Total Recv	0.087	mg/l		0.001	0.008
SS-13	28-Nov-18	17:00	S-ROUTINE	Zinc		Total Recv	0.112	mg/l		0.001	0.008
SS-14	28-Nov-18	16:00	S-ROUTINE	Zinc		Total Recv	0.104	mg/l		0.001	0.008
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Zinc		Total Recv	0.098	mg/l		0.001	0.008
SS-15B	28-Nov-18	13:15	S-ROUTINE	Zinc		Total Recv	0.088	mg/l		0.001	0.008
SS-16B	28-Nov-18	11:30	S-ROUTINE	Zinc		Total Recv	0.104	mg/l		0.001	0.008
SS-17D	28-Nov-18	10:15	S-ROUTINE	Zinc		Total Recv	0.118	mg/l		0.001	0.008
SS-19	28-Nov-18	9:00	S-ROUTINE	Zinc		Total Recv	0.109	mg/l		0.001	0.008
SS-07	29-Nov-18	13:30	QC-FB	Alkalinity, total	as CaCO3	Total	<2	mg/l		2	4
SS-01	29-Nov-18	17:00	QC-FD	Alkalinity, total	as CaCO3	Total	89	mg/l		2	4
SS-15G	29-Nov-18	14:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		2	4
SS-01	29-Nov-18	17:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	88	mg/l		2	4
SS-05A	29-Nov-18	15:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		2	4
SS-06G	29-Nov-18	14:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	96	mg/l		2	4
SS-07	29-Nov-18	13:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	100	mg/l		2	4
SS-08	29-Nov-18	12:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-10A	29-Nov-18	11:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-11C	29-Nov-18	9:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-11D	29-Nov-18	9:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110	mg/l		2	4
SS-07	29-Nov-18	13:30	QC-FB	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-01	29-Nov-18	17:00	QC-FD	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-15G	29-Nov-18	14:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-01	29-Nov-18	17:00	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-05A	29-Nov-18	15:30	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-06G	29-Nov-18	14:30	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-07	29-Nov-18	13:45	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-08	29-Nov-18	12:45	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-10A	29-Nov-18	11:15	S-ROUTINE	Aluminum		Dissolved	0.014	mg/l		0.003	0.009
SS-11C	29-Nov-18	9:45	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009
SS-11D	29-Nov-18	9:15	S-ROUTINE	Aluminum		Dissolved	<0.003	mg/l		0.003	0.009

SS-07	29-Nov-18	13:30	QC-FB	Aluminum		Total Recv	<0.003	mg/l		0.003	0.009
SS-01	29-Nov-18	17:00	QC-FD	Aluminum		Total Recv	0.115	mg/l		0.003	0.009
SS-15G	29-Nov-18	14:00	S-ROUTINE	Aluminum		Total Recv	0.041	mg/l		0.003	0.009
SS-01	29-Nov-18	17:00	S-ROUTINE	Aluminum		Total Recv	0.118	mg/l		0.003	0.009
SS-05A	29-Nov-18	15:30	S-ROUTINE	Aluminum		Total Recv	0.361	mg/l		0.003	0.009
SS-06G	29-Nov-18	14:30	S-ROUTINE	Aluminum		Total Recv	0.165	mg/l		0.003	0.009
SS-07	29-Nov-18	13:45	S-ROUTINE	Aluminum		Total Recv	0.132	mg/l		0.003	0.009
SS-08	29-Nov-18	12:45	S-ROUTINE	Aluminum		Total Recv	0.224	mg/l		0.003	0.009
SS-10A	29-Nov-18	11:15	S-ROUTINE	Aluminum		Total Recv	0.154	mg/l		0.003	0.009
SS-11C	29-Nov-18	9:45	S-ROUTINE	Aluminum		Total Recv	0.076	mg/l		0.003	0.009
SS-11D	29-Nov-18	9:15	S-ROUTINE	Aluminum		Total Recv	0.094	mg/l		0.003	0.009
SS-07	29-Nov-18	13:30	QC-FB	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-01	29-Nov-18	17:00	QC-FD	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-15G	29-Nov-18	14:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-01	29-Nov-18	17:00	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-05A	29-Nov-18	15:30	S-ROUTINE	Ammonia	as N	Unfiltered	0.03	mg/l	J	0.02	0.05
SS-06G	29-Nov-18	14:30	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-07	29-Nov-18	13:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-08	29-Nov-18	12:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-10A	29-Nov-18	11:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11C	29-Nov-18	9:45	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-11D	29-Nov-18	9:15	S-ROUTINE	Ammonia	as N	Unfiltered	<0.02	mg/l		0.02	0.05
SS-07	29-Nov-18	13:30	QC-FB	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-01	29-Nov-18	17:00	QC-FD	Antimony		Dissolved	0.00014	mg/l	J	0.00009	0.0005
SS-15G	29-Nov-18	14:00	S-ROUTINE	Antimony		Dissolved	0.00009	mg/l	J	0.00009	0.0005
SS-01	29-Nov-18	17:00	S-ROUTINE	Antimony		Dissolved	0.00015	mg/l	J	0.00009	0.0005
SS-05A	29-Nov-18	15:30	S-ROUTINE	Antimony		Dissolved	0.00016	mg/l	J	0.00009	0.0005
SS-06G	29-Nov-18	14:30	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-07	29-Nov-18	13:45	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-08	29-Nov-18	12:45	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-10A	29-Nov-18	11:15	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-11C	29-Nov-18	9:45	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-11D	29-Nov-18	9:15	S-ROUTINE	Antimony		Dissolved	<0.00009	mg/l		0.00009	0.0005
SS-07	29-Nov-18	13:30	QC-FB	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-01	29-Nov-18	17:00	QC-FD	Antimony		Total Recv	0.0002	mg/l	J	0.0001	0.0005
SS-15G	29-Nov-18	14:00	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-01	29-Nov-18	17:00	S-ROUTINE	Antimony		Total Recv	0.0002	mg/l	J	0.0001	0.0005
SS-05A	29-Nov-18	15:30	S-ROUTINE	Antimony		Total Recv	0.0002	mg/l	J	0.0001	0.0005
SS-06G	29-Nov-18	14:30	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-07	29-Nov-18	13:45	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-08	29-Nov-18	12:45	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-10A	29-Nov-18	11:15	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-11C	29-Nov-18	9:45	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-11D	29-Nov-18	9:15	S-ROUTINE	Antimony		Total Recv	<0.0001	mg/l		0.0001	0.0005
SS-07	29-Nov-18	13:30	QC-FB	Arsenic		Dissolved	<0.00004	mg/l		0.00004	0.001
SS-01	29-Nov-18	17:00	QC-FD	Arsenic		Dissolved	0.002	mg/l		0.00004	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00004	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Arsenic		Dissolved	0.002	mg/l		0.00004	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Arsenic		Dissolved	0.002	mg/l		0.00004	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00004	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00004	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00004	0.001

SS-10A	29-Nov-18	11:15	S-ROUTINE	Arsenic		Dissolved	0.003	mg/l		0.00004	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Arsenic		Dissolved	0.004	mg/l		0.00004	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Arsenic		Dissolved	0.005	mg/l		0.00004	0.001
SS-07	29-Nov-18	13:30	QC-FB	Arsenic		Total Recv	<0.00004	mg/l		0.00004	0.001
SS-01	29-Nov-18	17:00	QC-FD	Arsenic		Total Recv	0.003	mg/l		0.00004	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Arsenic		Total Recv	0.003	mg/l		0.00004	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Arsenic		Total Recv	0.003	mg/l		0.00004	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Arsenic		Total Recv	0.004	mg/l		0.00004	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Arsenic		Total Recv	0.005	mg/l		0.00004	0.001
SS-07	29-Nov-18	13:30	QC-FB	Barium		Dissolved	<0.00002	mg/l		0.00002	0.003
SS-01	29-Nov-18	17:00	QC-FD	Barium		Dissolved	0.047	mg/l		0.00002	0.003
SS-15G	29-Nov-18	14:00	S-ROUTINE	Barium		Dissolved	0.024	mg/l		0.00002	0.003
SS-01	29-Nov-18	17:00	S-ROUTINE	Barium		Dissolved	0.046	mg/l		0.00002	0.003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Barium		Dissolved	0.05	mg/l		0.00002	0.003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Barium		Dissolved	0.045	mg/l		0.00002	0.003
SS-07	29-Nov-18	13:45	S-ROUTINE	Barium		Dissolved	0.041	mg/l		0.00002	0.003
SS-08	29-Nov-18	12:45	S-ROUTINE	Barium		Dissolved	0.042	mg/l		0.00002	0.003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Barium		Dissolved	0.043	mg/l		0.00002	0.003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Barium		Dissolved	0.046	mg/l		0.00002	0.003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Barium		Dissolved	0.049	mg/l		0.00002	0.003
SS-07	29-Nov-18	13:30	QC-FB	Barium		Total Recv	<0.00009	mg/l		0.00009	0.003
SS-01	29-Nov-18	17:00	QC-FD	Barium		Total Recv	0.048	mg/l		0.00009	0.003
SS-15G	29-Nov-18	14:00	S-ROUTINE	Barium		Total Recv	0.023	mg/l		0.00009	0.003
SS-01	29-Nov-18	17:00	S-ROUTINE	Barium		Total Recv	0.048	mg/l		0.00009	0.003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Barium		Total Recv	0.057	mg/l		0.00009	0.003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Barium		Total Recv	0.047	mg/l		0.00009	0.003
SS-07	29-Nov-18	13:45	S-ROUTINE	Barium		Total Recv	0.043	mg/l		0.00009	0.003
SS-08	29-Nov-18	12:45	S-ROUTINE	Barium		Total Recv	0.046	mg/l		0.00009	0.003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Barium		Total Recv	0.043	mg/l		0.00009	0.003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Barium		Total Recv	0.048	mg/l		0.00009	0.003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Barium		Total Recv	0.046	mg/l		0.00009	0.003
SS-07	29-Nov-18	13:30	QC-FB	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-01	29-Nov-18	17:00	QC-FD	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-15G	29-Nov-18	14:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-01	29-Nov-18	17:00	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-05A	29-Nov-18	15:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-06G	29-Nov-18	14:30	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-07	29-Nov-18	13:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-08	29-Nov-18	12:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-10A	29-Nov-18	11:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11C	29-Nov-18	9:45	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-11D	29-Nov-18	9:15	S-ROUTINE	Beryllium		Dissolved	<0.0001	mg/l		0.0001	0.0008
SS-07	29-Nov-18	13:30	QC-FB	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-01	29-Nov-18	17:00	QC-FD	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-15G	29-Nov-18	14:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-01	29-Nov-18	17:00	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-05A	29-Nov-18	15:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008

SS-06G	29-Nov-18	14:30	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-07	29-Nov-18	13:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-08	29-Nov-18	12:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-10A	29-Nov-18	11:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11C	29-Nov-18	9:45	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-11D	29-Nov-18	9:15	S-ROUTINE	Beryllium		Total Recv	<0.00006	mg/l		0.00006	0.0008
SS-07	29-Nov-18	13:30	QC-FB	Bicarbonate	as HCO3	Total	<2	mg/l		2	4
SS-01	29-Nov-18	17:00	QC-FD	Bicarbonate	as HCO3	Total	110	mg/l		2	4
SS-15G	29-Nov-18	14:00	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-01	29-Nov-18	17:00	S-ROUTINE	Bicarbonate	as HCO3	Total	110	mg/l		2	4
SS-05A	29-Nov-18	15:30	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		2	4
SS-06G	29-Nov-18	14:30	S-ROUTINE	Bicarbonate	as HCO3	Total	120	mg/l		2	4
SS-07	29-Nov-18	13:45	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-08	29-Nov-18	12:45	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-10A	29-Nov-18	11:15	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-11C	29-Nov-18	9:45	S-ROUTINE	Bicarbonate	as HCO3	Total	130	mg/l		2	4
SS-11D	29-Nov-18	9:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140	mg/l		2	4
SS-07	29-Nov-18	13:30	QC-FB	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-01	29-Nov-18	17:00	QC-FD	Boron		Dissolved	0.017	mg/l	J	0.006	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Boron		Dissolved	0.015	mg/l	J	0.006	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Boron		Dissolved	0.027	mg/l	J	0.006	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-08	29-Nov-18	12:45	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Boron		Dissolved	<0.006	mg/l		0.006	0.1
SS-07	29-Nov-18	13:30	QC-FB	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-01	29-Nov-18	17:00	QC-FD	Boron		Total Recv	0.021	mg/l	J	0.005	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Boron		Total Recv	0.018	mg/l	J	0.005	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Boron		Total Recv	0.026	mg/l	J	0.005	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-08	29-Nov-18	12:45	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Boron		Total Recv	<0.005	mg/l		0.005	0.1
SS-07	29-Nov-18	13:30	QC-FB	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-01	29-Nov-18	17:00	QC-FD	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-01	29-Nov-18	17:00	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cadmium		Dissolved	<0.00003	mg/l		0.00003	0.00003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cadmium		Dissolved	0.00006	mg/l		0.00003	0.00003
SS-07	29-Nov-18	13:45	S-ROUTINE	Cadmium		Dissolved	0.00009	mg/l		0.00003	0.00003
SS-08	29-Nov-18	12:45	S-ROUTINE	Cadmium		Dissolved	0.00015	mg/l		0.00003	0.00003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cadmium		Dissolved	0.00035	mg/l		0.00003	0.00003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cadmium		Dissolved	0.00043	mg/l		0.00003	0.00003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cadmium		Dissolved	0.0004	mg/l		0.00003	0.00003
SS-07	29-Nov-18	13:30	QC-FB	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-01	29-Nov-18	17:00	QC-FD	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003

SS-15G	29-Nov-18	14:00	S-ROUTINE	Cadmium		Total Recv	<0.00003	mg/l		0.00003	0.00003
SS-01	29-Nov-18	17:00	S-ROUTINE	Cadmium		Total Recv	0.00003	mg/l		0.00003	0.00003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cadmium		Total Recv	0.00014	mg/l		0.00003	0.00003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cadmium		Total Recv	0.00017	mg/l		0.00003	0.00003
SS-07	29-Nov-18	13:45	S-ROUTINE	Cadmium		Total Recv	0.00016	mg/l		0.00003	0.00003
SS-08	29-Nov-18	12:45	S-ROUTINE	Cadmium		Total Recv	0.00037	mg/l		0.00003	0.00003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cadmium		Total Recv	0.00048	mg/l		0.00003	0.00003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cadmium		Total Recv	0.0005	mg/l		0.00003	0.00003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cadmium		Total Recv	0.00045	mg/l		0.00003	0.00003
SS-07	29-Nov-18	13:30	QC-FB	Calcium		Dissolved	<0.07	mg/l		0.07	1
SS-01	29-Nov-18	17:00	QC-FD	Calcium		Dissolved	29	mg/l		0.07	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Calcium		Dissolved	34	mg/l		0.07	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Calcium		Dissolved	29	mg/l		0.07	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Calcium		Dissolved	34	mg/l		0.07	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Calcium		Dissolved	45	mg/l		0.07	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Calcium		Dissolved	42	mg/l		0.07	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Calcium		Dissolved	48	mg/l		0.07	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Calcium		Dissolved	49	mg/l		0.07	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Calcium		Dissolved	64	mg/l		0.07	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Calcium		Dissolved	60	mg/l		0.07	1
SS-07	29-Nov-18	13:30	QC-FB	Calcium		Total Recv	<0.09	mg/l		0.09	1
SS-01	29-Nov-18	17:00	QC-FD	Calcium		Total Recv	32	mg/l		0.09	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Calcium		Total Recv	36	mg/l		0.09	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Calcium		Total Recv	32	mg/l		0.09	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Calcium		Total Recv	36	mg/l		0.09	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Calcium		Total Recv	50	mg/l		0.09	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Calcium		Total Recv	47	mg/l		0.09	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Calcium		Total Recv	52	mg/l		0.09	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Calcium		Total Recv	53	mg/l		0.09	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Calcium		Total Recv	68	mg/l		0.09	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Calcium		Total Recv	62	mg/l		0.09	1
SS-07	29-Nov-18	13:30	QC-FB	Chloride		Total	<0.009	mg/l		0.009	1
SS-01	29-Nov-18	17:00	QC-FD	Chloride		Total	14	mg/l		0.009	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Chloride		Total	0.94	mg/l	J	0.009	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Chloride		Total	14	mg/l		0.009	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Chloride		Total	21	mg/l		0.009	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Chloride		Total	29	mg/l		0.009	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Chloride		Total	36	mg/l		0.009	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Chloride		Total	38	mg/l		0.009	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Chloride		Total	39	mg/l		0.009	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Chloride		Total	82	mg/l		0.009	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Chloride		Total	74	mg/l		0.009	1
SS-07	29-Nov-18	13:30	QC-FB	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-01	29-Nov-18	17:00	QC-FD	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-15G	29-Nov-18	14:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-01	29-Nov-18	17:00	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-05A	29-Nov-18	15:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-06G	29-Nov-18	14:30	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-07	29-Nov-18	13:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-08	29-Nov-18	12:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-10A	29-Nov-18	11:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-11C	29-Nov-18	9:45	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01

SS-11D	29-Nov-18	9:15	S-ROUTINE	Chromium		Dissolved	<0.0002	mg/l		0.0002	0.01
SS-07	29-Nov-18	13:30	QC-FB	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-01	29-Nov-18	17:00	QC-FD	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-15G	29-Nov-18	14:00	S-ROUTINE	Chromium		Total Recv	0.0002	mg/l	J	0.0001	0.01
SS-01	29-Nov-18	17:00	S-ROUTINE	Chromium		Total Recv	0.0004	mg/l	J	0.0001	0.01
SS-05A	29-Nov-18	15:30	S-ROUTINE	Chromium		Total Recv	0.001	mg/l	J	0.0001	0.01
SS-06G	29-Nov-18	14:30	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-07	29-Nov-18	13:45	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-08	29-Nov-18	12:45	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-10A	29-Nov-18	11:15	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-11C	29-Nov-18	9:45	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-11D	29-Nov-18	9:15	S-ROUTINE	Chromium		Total Recv	<0.0001	mg/l		0.0001	0.01
SS-07	29-Nov-18	13:30	QC-FB	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-01	29-Nov-18	17:00	QC-FD	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cobalt		Dissolved	0.0011	mg/l	J	0.00009	0.01
SS-01	29-Nov-18	17:00	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cobalt		Dissolved	0.00009	mg/l	J	0.00009	0.01
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-07	29-Nov-18	13:45	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-08	29-Nov-18	12:45	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cobalt		Dissolved	<0.00009	mg/l		0.00009	0.01
SS-07	29-Nov-18	13:30	QC-FB	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-01	29-Nov-18	17:00	QC-FD	Cobalt		Total Recv	0.00014	mg/l	J	0.00006	0.01
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cobalt		Total Recv	0.0012	mg/l	J	0.00006	0.01
SS-01	29-Nov-18	17:00	S-ROUTINE	Cobalt		Total Recv	0.00015	mg/l	J	0.00006	0.01
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cobalt		Total Recv	0.00028	mg/l	J	0.00006	0.01
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-07	29-Nov-18	13:45	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-08	29-Nov-18	12:45	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cobalt		Total Recv	<0.00006	mg/l		0.00006	0.01
SS-07	29-Nov-18	13:30	QC-FB	Copper		Dissolved	<0.0001	mg/l		0.0001	0.001
SS-01	29-Nov-18	17:00	QC-FD	Copper		Dissolved	0.001	mg/l		0.0001	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Copper		Dissolved	0.0005	mg/l	J	0.0001	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Copper		Dissolved	0.001	mg/l		0.0001	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Copper		Dissolved	0.002	mg/l		0.0001	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Copper		Dissolved	0.004	mg/l		0.0001	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Copper		Dissolved	0.004	mg/l		0.0001	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Copper		Dissolved	0.006	mg/l		0.0001	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Copper		Dissolved	0.027	mg/l		0.0001	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Copper		Dissolved	0.026	mg/l		0.0001	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Copper		Dissolved	0.024	mg/l		0.0001	0.001
SS-07	29-Nov-18	13:30	QC-FB	Copper		Total Recv	<0.0002	mg/l		0.0002	0.001
SS-01	29-Nov-18	17:00	QC-FD	Copper		Total Recv	0.003	mg/l		0.0002	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Copper		Total Recv	0.001	mg/l		0.0002	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Copper		Total Recv	0.003	mg/l		0.0002	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Copper		Total Recv	0.015	mg/l		0.0002	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Copper		Total Recv	0.012	mg/l		0.0002	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Copper		Total Recv	0.011	mg/l		0.0002	0.001

SS-08	29-Nov-18	12:45	S-ROUTINE	Copper		Total Recv	0.017	mg/l		0.0002	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Copper		Total Recv	0.046	mg/l		0.0002	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Copper		Total Recv	0.033	mg/l		0.0002	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Copper		Total Recv	0.03	mg/l		0.0002	0.001
SS-01	29-Nov-18	17:00	F-MSR/OBS	Dissolved oxygen (DO)		NA	12.5	mg/l			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	13.3	mg/l			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	Dissolved oxygen (DO)		NA	14	mg/l			
SS-07	29-Nov-18	13:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	12.3	mg/l			
SS-08	29-Nov-18	12:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	13.6	mg/l			
SS-10A	29-Nov-18	11:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	14.1	mg/l			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	Dissolved oxygen (DO)		NA	13.6	mg/l			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	Dissolved oxygen (DO)		NA	13.9	mg/l			
SS-01	29-Nov-18	17:00	F-MSR/OBS	Dissolved oxygen saturation		NA	114	%			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	Dissolved oxygen saturation		NA	125	%			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	Dissolved oxygen saturation		NA	129	%			
SS-07	29-Nov-18	13:45	F-MSR/OBS	Dissolved oxygen saturation		NA	124	%			
SS-08	29-Nov-18	12:45	F-MSR/OBS	Dissolved oxygen saturation		NA	130	%			
SS-10A	29-Nov-18	11:15	F-MSR/OBS	Dissolved oxygen saturation		NA	127	%			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	Dissolved oxygen saturation		NA	121	%			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	Dissolved oxygen saturation		NA	122	%			
SS-01	29-Nov-18	17:00	F-MSR/OBS	Flow		NA	12.45	ft3/sec			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	Flow		NA	20.08	ft3/sec			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	Flow		NA	18.83	ft3/sec			
SS-08	29-Nov-18	12:45	F-MSR/OBS	Flow		NA	29.14	ft3/sec			
SS-10A	29-Nov-18	11:15	F-MSR/OBS	Flow		NA	26.37	ft3/sec			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	Flow		NA	34.38	ft3/sec			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	Flow		NA	36.55	ft3/sec			
SS-07	29-Nov-18	13:30	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1	mg/l		1	1
SS-01	29-Nov-18	17:00	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	114	mg/l		1	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	119	mg/l		1	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	114	mg/l		1	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	128	mg/l		1	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	178	mg/l		1	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	170	mg/l		1	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	187	mg/l		1	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	192	mg/l		1	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	243	mg/l		1	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	223	mg/l		1	1
SS-07	29-Nov-18	13:30	QC-FB	Iron		Dissolved	<0.002	mg/l		0.002	0.02
SS-01	29-Nov-18	17:00	QC-FD	Iron		Dissolved	0.18	mg/l		0.002	0.02
SS-15G	29-Nov-18	14:00	S-ROUTINE	Iron		Dissolved	0.006	mg/l	J	0.002	0.02
SS-01	29-Nov-18	17:00	S-ROUTINE	Iron		Dissolved	0.19	mg/l		0.002	0.02
SS-05A	29-Nov-18	15:30	S-ROUTINE	Iron		Dissolved	0.1	mg/l		0.002	0.02
SS-06G	29-Nov-18	14:30	S-ROUTINE	Iron		Dissolved	0.06	mg/l		0.002	0.02
SS-07	29-Nov-18	13:45	S-ROUTINE	Iron		Dissolved	0.06	mg/l		0.002	0.02
SS-08	29-Nov-18	12:45	S-ROUTINE	Iron		Dissolved	0.06	mg/l		0.002	0.02
SS-10A	29-Nov-18	11:15	S-ROUTINE	Iron		Dissolved	0.06	mg/l		0.002	0.02
SS-11C	29-Nov-18	9:45	S-ROUTINE	Iron		Dissolved	0.06	mg/l		0.002	0.02
SS-11D	29-Nov-18	9:15	S-ROUTINE	Iron		Dissolved	0.05	mg/l		0.002	0.02
SS-07	29-Nov-18	13:30	QC-FB	Iron		Total Recv	<0.004	mg/l		0.004	0.02
SS-01	29-Nov-18	17:00	QC-FD	Iron		Total Recv	0.59	mg/l		0.004	0.02
SS-15G	29-Nov-18	14:00	S-ROUTINE	Iron		Total Recv	0.04	mg/l		0.004	0.02

SS-01	29-Nov-18	17:00	S-ROUTINE	Iron		Total Recv	0.63	mg/l		0.004	0.02
SS-05A	29-Nov-18	15:30	S-ROUTINE	Iron		Total Recv	1.18	mg/l		0.004	0.02
SS-06G	29-Nov-18	14:30	S-ROUTINE	Iron		Total Recv	0.63	mg/l		0.004	0.02
SS-07	29-Nov-18	13:45	S-ROUTINE	Iron		Total Recv	0.51	mg/l		0.004	0.02
SS-08	29-Nov-18	12:45	S-ROUTINE	Iron		Total Recv	0.71	mg/l		0.004	0.02
SS-10A	29-Nov-18	11:15	S-ROUTINE	Iron		Total Recv	0.4	mg/l		0.004	0.02
SS-11C	29-Nov-18	9:45	S-ROUTINE	Iron		Total Recv	0.21	mg/l		0.004	0.02
SS-11D	29-Nov-18	9:15	S-ROUTINE	Iron		Total Recv	0.22	mg/l		0.004	0.02
SS-07	29-Nov-18	13:30	QC-FB	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-01	29-Nov-18	17:00	QC-FD	Lead		Dissolved	0.00007	mg/l	J	0.00003	0.0003
SS-15G	29-Nov-18	14:00	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-01	29-Nov-18	17:00	S-ROUTINE	Lead		Dissolved	0.00007	mg/l	J	0.00003	0.0003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Lead		Dissolved	0.00008	mg/l	J	0.00003	0.0003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-07	29-Nov-18	13:45	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-08	29-Nov-18	12:45	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Lead		Dissolved	<0.00003	mg/l		0.00003	0.0003
SS-07	29-Nov-18	13:30	QC-FB	Lead		Total Recv	<0.00004	mg/l		0.00004	0.0003
SS-01	29-Nov-18	17:00	QC-FD	Lead		Total Recv	0.0005	mg/l		0.00004	0.0003
SS-15G	29-Nov-18	14:00	S-ROUTINE	Lead		Total Recv	0.00007	mg/l	J	0.00004	0.0003
SS-01	29-Nov-18	17:00	S-ROUTINE	Lead		Total Recv	0.0006	mg/l		0.00004	0.0003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Lead		Total Recv	0.0044	mg/l		0.00004	0.0003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Lead		Total Recv	0.002	mg/l		0.00004	0.0003
SS-07	29-Nov-18	13:45	S-ROUTINE	Lead		Total Recv	0.0018	mg/l		0.00004	0.0003
SS-08	29-Nov-18	12:45	S-ROUTINE	Lead		Total Recv	0.0061	mg/l		0.00004	0.0003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Lead		Total Recv	0.0023	mg/l		0.00004	0.0003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Lead		Total Recv	0.0009	mg/l		0.00004	0.0003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Lead		Total Recv	0.0009	mg/l		0.00004	0.0003
SS-07	29-Nov-18	13:30	QC-FB	Magnesium		Dissolved	<0.01	mg/l		0.01	1
SS-01	29-Nov-18	17:00	QC-FD	Magnesium		Dissolved	7	mg/l		0.1	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Magnesium		Dissolved	7	mg/l		0.1	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Magnesium		Dissolved	9	mg/l		0.1	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Magnesium		Dissolved	12	mg/l		0.1	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Magnesium		Dissolved	11	mg/l		0.1	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Magnesium		Dissolved	13	mg/l		0.1	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Magnesium		Dissolved	14	mg/l		0.1	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Magnesium		Dissolved	17	mg/l		0.1	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Magnesium		Dissolved	16	mg/l		0.1	1
SS-07	29-Nov-18	13:30	QC-FB	Magnesium		Total Recv	<0.009	mg/l		0.009	1
SS-01	29-Nov-18	17:00	QC-FD	Magnesium		Total Recv	8	mg/l		0.2	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Magnesium		Total Recv	7	mg/l		0.2	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Magnesium		Total Recv	8	mg/l		0.2	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Magnesium		Total Recv	9	mg/l		0.2	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Magnesium		Total Recv	13	mg/l		0.2	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Magnesium		Total Recv	13	mg/l		0.2	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Magnesium		Total Recv	14	mg/l		0.2	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Magnesium		Total Recv	15	mg/l		0.2	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Magnesium		Total Recv	17	mg/l		0.2	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Magnesium		Total Recv	16	mg/l		0.2	1

SS-07	29-Nov-18	13:30	QC-FB	Manganese		Dissolved	<0.0003	mg/l		0.0003	0.001
SS-01	29-Nov-18	17:00	QC-FD	Manganese		Dissolved	0.056	mg/l		0.0003	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Manganese		Dissolved	0.0009	mg/l	J	0.0003	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Manganese		Dissolved	0.056	mg/l		0.0003	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Manganese		Dissolved	0.162	mg/l		0.0003	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Manganese		Dissolved	0.236	mg/l		0.0003	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Manganese		Dissolved	0.182	mg/l		0.0003	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Manganese		Dissolved	0.184	mg/l		0.0003	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Manganese		Dissolved	0.169	mg/l		0.0003	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Manganese		Dissolved	0.186	mg/l		0.0003	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Manganese		Dissolved	0.181	mg/l		0.0003	0.001
SS-07	29-Nov-18	13:30	QC-FB	Manganese		Total Recv	<0.0003	mg/l		0.0003	0.001
SS-01	29-Nov-18	17:00	QC-FD	Manganese		Total Recv	0.071	mg/l		0.0003	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Manganese		Total Recv	0.003	mg/l		0.0003	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Manganese		Total Recv	0.07	mg/l		0.0003	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Manganese		Total Recv	0.202	mg/l		0.0003	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Manganese		Total Recv	0.276	mg/l		0.0003	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Manganese		Total Recv	0.21	mg/l		0.0003	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Manganese		Total Recv	0.266	mg/l		0.0003	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Manganese		Total Recv	0.21	mg/l		0.0003	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Manganese		Total Recv	0.204	mg/l		0.0003	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Manganese		Total Recv	0.198	mg/l		0.0003	0.001
SS-07	29-Nov-18	13:30	QC-FB	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-01	29-Nov-18	17:00	QC-FD	Mercury		Dissolved	0.0000039	mg/l	J	0.0000009	0.000005
SS-15G	29-Nov-18	14:00	S-ROUTINE	Mercury		Dissolved	0.0000038	mg/l	J	0.0000009	0.000005
SS-01	29-Nov-18	17:00	S-ROUTINE	Mercury		Dissolved	0.0000034	mg/l	J	0.0000009	0.000005
SS-05A	29-Nov-18	15:30	S-ROUTINE	Mercury		Dissolved	0.000004	mg/l	J	0.0000009	0.000005
SS-06G	29-Nov-18	14:30	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-07	29-Nov-18	13:45	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-08	29-Nov-18	12:45	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-10A	29-Nov-18	11:15	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-11C	29-Nov-18	9:45	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-11D	29-Nov-18	9:15	S-ROUTINE	Mercury		Dissolved	<0.0009	mg/l		0.0009	0.005
SS-07	29-Nov-18	13:30	QC-FB	Mercury		Total Recv	<0.0009	mg/l		0.0009	0.005
SS-01	29-Nov-18	17:00	QC-FD	Mercury		Total Recv	0.000005	mg/l		0.0000009	0.000005
SS-15G	29-Nov-18	14:00	S-ROUTINE	Mercury		Total Recv	0.0000038	mg/l	J	0.0000009	0.000005
SS-01	29-Nov-18	17:00	S-ROUTINE	Mercury		Total Recv	0.0000049	mg/l	J	0.0000009	0.000005
SS-05A	29-Nov-18	15:30	S-ROUTINE	Mercury		Total Recv	0.00001	mg/l		0.0000009	0.000005
SS-06G	29-Nov-18	14:30	S-ROUTINE	Mercury		Total Recv	0.000007	mg/l		0.0000009	0.000005
SS-07	29-Nov-18	13:45	S-ROUTINE	Mercury		Total Recv	0.000008	mg/l		0.0000009	0.000005
SS-08	29-Nov-18	12:45	S-ROUTINE	Mercury		Total Recv	0.000022	mg/l		0.0000009	0.000005
SS-10A	29-Nov-18	11:15	S-ROUTINE	Mercury		Total Recv	0.000012	mg/l		0.0000009	0.000005
SS-11C	29-Nov-18	9:45	S-ROUTINE	Mercury		Total Recv	0.000007	mg/l		0.0000009	0.000005
SS-11D	29-Nov-18	9:15	S-ROUTINE	Mercury		Total Recv	0.000009	mg/l		0.0000009	0.000005
SS-07	29-Nov-18	13:30	QC-FB	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-01	29-Nov-18	17:00	QC-FD	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-15G	29-Nov-18	14:00	S-ROUTINE	Molybdenum		Dissolved	0.00033	mg/l	J	0.00002	0.005
SS-01	29-Nov-18	17:00	S-ROUTINE	Molybdenum		Dissolved	0.0042	mg/l	J	0.00002	0.005
SS-05A	29-Nov-18	15:30	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-06G	29-Nov-18	14:30	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-07	29-Nov-18	13:45	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-08	29-Nov-18	12:45	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005

SS-10A	29-Nov-18	11:15	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-11C	29-Nov-18	9:45	S-ROUTINE	Molybdenum		Dissolved	0.005	mg/l		0.00002	0.005
SS-11D	29-Nov-18	9:15	S-ROUTINE	Molybdenum		Dissolved	<0.00002	mg/l		0.00002	0.005
SS-07	29-Nov-18	13:30	QC-FB	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-01	29-Nov-18	17:00	QC-FD	Molybdenum		Total Recv	0.0045	mg/l	J	0.00002	0.005
SS-15G	29-Nov-18	14:00	S-ROUTINE	Molybdenum		Total Recv	0.00032	mg/l	J	0.00002	0.005
SS-01	29-Nov-18	17:00	S-ROUTINE	Molybdenum		Total Recv	0.0045	mg/l	J	0.00002	0.005
SS-05A	29-Nov-18	15:30	S-ROUTINE	Molybdenum		Total Recv	0.006	mg/l		0.00002	0.005
SS-06G	29-Nov-18	14:30	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-07	29-Nov-18	13:45	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-08	29-Nov-18	12:45	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-10A	29-Nov-18	11:15	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-11C	29-Nov-18	9:45	S-ROUTINE	Molybdenum		Total Recv	0.005	mg/l		0.00002	0.005
SS-11D	29-Nov-18	9:15	S-ROUTINE	Molybdenum		Total Recv	<0.00002	mg/l		0.00002	0.005
SS-07	29-Nov-18	13:30	QC-FB	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-01	29-Nov-18	17:00	QC-FD	Nickel		Dissolved	0.0003	mg/l	J	0.0002	0.002
SS-15G	29-Nov-18	14:00	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-01	29-Nov-18	17:00	S-ROUTINE	Nickel		Dissolved	0.0003	mg/l	J	0.0002	0.002
SS-05A	29-Nov-18	15:30	S-ROUTINE	Nickel		Dissolved	0.0003	mg/l	J	0.0002	0.002
SS-06G	29-Nov-18	14:30	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-07	29-Nov-18	13:45	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-08	29-Nov-18	12:45	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-10A	29-Nov-18	11:15	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-11C	29-Nov-18	9:45	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-11D	29-Nov-18	9:15	S-ROUTINE	Nickel		Dissolved	<0.0002	mg/l		0.0002	0.002
SS-07	29-Nov-18	13:30	QC-FB	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-01	29-Nov-18	17:00	QC-FD	Nickel		Total Recv	0.0004	mg/l	J	0.0001	0.002
SS-15G	29-Nov-18	14:00	S-ROUTINE	Nickel		Total Recv	0.0002	mg/l	J	0.0001	0.002
SS-01	29-Nov-18	17:00	S-ROUTINE	Nickel		Total Recv	0.0005	mg/l	J	0.0001	0.002
SS-05A	29-Nov-18	15:30	S-ROUTINE	Nickel		Total Recv	0.0009	mg/l	J	0.0001	0.002
SS-06G	29-Nov-18	14:30	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-07	29-Nov-18	13:45	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-08	29-Nov-18	12:45	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-10A	29-Nov-18	11:15	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-11C	29-Nov-18	9:45	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-11D	29-Nov-18	9:15	S-ROUTINE	Nickel		Total Recv	<0.0001	mg/l		0.0001	0.002
SS-07	29-Nov-18	13:30	QC-FB	Nitrate + Nitrite	as N	Unfiltered	<0.009	mg/l		0.009	0.02
SS-01	29-Nov-18	17:00	QC-FD	Nitrate + Nitrite	as N	Unfiltered	0.76	mg/l		0.009	0.02
SS-15G	29-Nov-18	14:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.03	mg/l		0.009	0.02
SS-01	29-Nov-18	17:00	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.76	mg/l		0.009	0.02
SS-05A	29-Nov-18	15:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	0.96	mg/l		0.009	0.02
SS-06G	29-Nov-18	14:30	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.1	mg/l		0.009	0.02
SS-07	29-Nov-18	13:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.52	mg/l		0.009	0.02
SS-08	29-Nov-18	12:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.03	mg/l		0.009	0.02
SS-10A	29-Nov-18	11:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.16	mg/l		0.009	0.02
SS-11C	29-Nov-18	9:45	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.32	mg/l		0.009	0.02
SS-11D	29-Nov-18	9:15	S-ROUTINE	Nitrate + Nitrite	as N	Unfiltered	1.23	mg/l		0.009	0.02
SS-01	29-Nov-18	17:00	F-MSR/OBS	pH		NA	7.07	None			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	pH		NA	7.25	None			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	pH		NA	7.75	None			
SS-07	29-Nov-18	13:45	F-MSR/OBS	pH		NA	7.26	None			
SS-08	29-Nov-18	12:45	F-MSR/OBS	pH		NA	7.48	None			

SS-10A	29-Nov-18	11:15	F-MSR/OBS	pH		NA	7.51	None			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	pH		NA	7.36	None			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	pH		NA	7.29	None			
SS-07	29-Nov-18	13:30	QC-FB	Potassium		Dissolved	<0.06	mg/l		0.06	1
SS-01	29-Nov-18	17:00	QC-FD	Potassium		Dissolved	3	mg/l		0.06	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Potassium		Dissolved	2	mg/l		0.06	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Potassium		Dissolved	3	mg/l		0.06	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Potassium		Dissolved	4	mg/l		0.06	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Potassium		Dissolved	5	mg/l		0.06	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Potassium		Dissolved	6	mg/l		0.06	1
SS-07	29-Nov-18	13:30	QC-FB	Potassium		Total Recv	<0.06	mg/l		0.06	1
SS-01	29-Nov-18	17:00	QC-FD	Potassium		Total Recv	3	mg/l		0.06	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Potassium		Total Recv	2	mg/l		0.06	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Potassium		Total Recv	3	mg/l		0.06	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Potassium		Total Recv	4	mg/l		0.06	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Potassium		Total Recv	5	mg/l		0.06	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Potassium		Total Recv	6	mg/l		0.06	1
SS-07	29-Nov-18	13:30	QC-FB	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-01	29-Nov-18	17:00	QC-FD	Selenium		Dissolved	0.00012	mg/l	J	0.00002	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Selenium		Dissolved	0.0005	mg/l	J	0.00002	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Selenium		Dissolved	0.00013	mg/l	J	0.00002	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Selenium		Dissolved	0.00013	mg/l	J	0.00002	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Selenium		Dissolved	<0.00002	mg/l		0.00002	0.001
SS-07	29-Nov-18	13:30	QC-FB	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-01	29-Nov-18	17:00	QC-FD	Selenium		Total Recv	0.00014	mg/l	J	0.00005	0.001
SS-15G	29-Nov-18	14:00	S-ROUTINE	Selenium		Total Recv	0.00051	mg/l	J	0.00005	0.001
SS-01	29-Nov-18	17:00	S-ROUTINE	Selenium		Total Recv	0.00014	mg/l	J	0.00005	0.001
SS-05A	29-Nov-18	15:30	S-ROUTINE	Selenium		Total Recv	0.00018	mg/l	J	0.00005	0.001
SS-06G	29-Nov-18	14:30	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-07	29-Nov-18	13:45	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-08	29-Nov-18	12:45	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-10A	29-Nov-18	11:15	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-11C	29-Nov-18	9:45	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-11D	29-Nov-18	9:15	S-ROUTINE	Selenium		Total Recv	<0.00005	mg/l		0.00005	0.001
SS-07	29-Nov-18	13:30	QC-FB	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-01	29-Nov-18	17:00	QC-FD	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-15G	29-Nov-18	14:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-01	29-Nov-18	17:00	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-05A	29-Nov-18	15:30	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002

SS-06G	29-Nov-18	14:30	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-07	29-Nov-18	13:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-08	29-Nov-18	12:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-10A	29-Nov-18	11:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11C	29-Nov-18	9:45	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-11D	29-Nov-18	9:15	S-ROUTINE	Silver		Dissolved	<0.00002	mg/l		0.00002	0.0002
SS-07	29-Nov-18	13:30	QC-FB	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-01	29-Nov-18	17:00	QC-FD	Silver		Total Recv	0.000013	mg/l	J	0.000009	0.0002
SS-15G	29-Nov-18	14:00	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-01	29-Nov-18	17:00	S-ROUTINE	Silver		Total Recv	0.000029	mg/l	J	0.000009	0.0002
SS-05A	29-Nov-18	15:30	S-ROUTINE	Silver		Total Recv	0.000065	mg/l	J	0.000009	0.0002
SS-06G	29-Nov-18	14:30	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-07	29-Nov-18	13:45	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-08	29-Nov-18	12:45	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-10A	29-Nov-18	11:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11C	29-Nov-18	9:45	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-11D	29-Nov-18	9:15	S-ROUTINE	Silver		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-07	29-Nov-18	13:30	QC-FB	Sodium		Dissolved	<0.02	mg/l		0.02	1
SS-01	29-Nov-18	17:00	QC-FD	Sodium		Dissolved	12	mg/l		0.02	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Sodium		Dissolved	5	mg/l		0.02	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Sodium		Dissolved	11	mg/l		0.02	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Sodium		Dissolved	15	mg/l		0.02	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Sodium		Dissolved	21	mg/l		0.02	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Sodium		Dissolved	29	mg/l		0.02	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Sodium		Dissolved	31	mg/l		0.02	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Sodium		Dissolved	32	mg/l		0.02	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Sodium		Dissolved	39	mg/l		0.02	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Sodium		Dissolved	38	mg/l		0.02	1
SS-07	29-Nov-18	13:30	QC-FB	Sodium		Total Recv	<0.03	mg/l		0.03	1
SS-01	29-Nov-18	17:00	QC-FD	Sodium		Total Recv	12	mg/l		0.03	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Sodium		Total Recv	5	mg/l		0.03	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Sodium		Total Recv	12	mg/l		0.03	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Sodium		Total Recv	16	mg/l		0.03	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Sodium		Total Recv	21	mg/l		0.03	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Sodium		Total Recv	29	mg/l		0.03	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Sodium		Total Recv	32	mg/l		0.03	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Sodium		Total Recv	32	mg/l		0.03	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Sodium		Total Recv	39	mg/l		0.03	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Sodium		Total Recv	39	mg/l		0.03	1
SS-01	29-Nov-18	17:00	F-MSR/OBS	Specific conductance		NA	611.8	uS/cm			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	Specific conductance		NA	787.6	uS/cm			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	Specific conductance		NA	1064	uS/cm			
SS-07	29-Nov-18	13:45	F-MSR/OBS	Specific conductance		NA	1147	uS/cm			
SS-08	29-Nov-18	12:45	F-MSR/OBS	Specific conductance		NA	1212	uS/cm			
SS-10A	29-Nov-18	11:15	F-MSR/OBS	Specific conductance		NA	1247	uS/cm			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	Specific conductance		NA	1585	uS/cm			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	Specific conductance		NA	1453	uS/cm			
SS-07	29-Nov-18	13:30	QC-FB	Sulfate		Total	<0.01	mg/l		0.01	1
SS-01	29-Nov-18	17:00	QC-FD	Sulfate		Total	29	mg/l		0.01	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Sulfate		Total	25	mg/l		0.01	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Sulfate		Total	29	mg/l		0.01	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Sulfate		Total	35	mg/l		0.01	1

SS-06G	29-Nov-18	14:30	S-ROUTINE	Sulfate		Total	82	mg/l		0.01	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Sulfate		Total	75	mg/l		0.01	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Sulfate		Total	88	mg/l		0.01	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Sulfate		Total	93	mg/l		0.01	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Sulfate		Total	100	mg/l		0.01	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Sulfate		Total	93	mg/l		0.01	1
SS-01	29-Nov-18	17:00	F-MSR/OBS	Temperature, water		NA	2.7	deg C			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	Temperature, water		NA	3.5	deg C			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	Temperature, water		NA	3	deg C			
SS-07	29-Nov-18	13:45	F-MSR/OBS	Temperature, water		NA	6.4	deg C			
SS-08	29-Nov-18	12:45	F-MSR/OBS	Temperature, water		NA	4.4	deg C			
SS-10A	29-Nov-18	11:15	F-MSR/OBS	Temperature, water		NA	2.4	deg C			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	Temperature, water		NA	1.9	deg C			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	Temperature, water		NA	1.5	deg C			
SS-07	29-Nov-18	13:30	QC-FB	Total Nitrogen, mixed forms	as N	Unfiltered	<0.03	mg/l		0.03	0.05
SS-01	29-Nov-18	17:00	QC-FD	Total Nitrogen, mixed forms	as N	Unfiltered	1.02	mg/l		0.03	0.05
SS-15G	29-Nov-18	14:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	0.08	mg/l		0.03	0.05
SS-01	29-Nov-18	17:00	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.03	mg/l		0.03	0.05
SS-05A	29-Nov-18	15:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.38	mg/l		0.03	0.05
SS-06G	29-Nov-18	14:30	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.36	mg/l		0.03	0.05
SS-07	29-Nov-18	13:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.83	mg/l		0.03	0.05
SS-08	29-Nov-18	12:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.41	mg/l		0.03	0.05
SS-10A	29-Nov-18	11:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.51	mg/l		0.03	0.05
SS-11C	29-Nov-18	9:45	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.64	mg/l		0.03	0.05
SS-11D	29-Nov-18	9:15	S-ROUTINE	Total Nitrogen, mixed forms	as N	Unfiltered	1.54	mg/l		0.03	0.05
SS-07	29-Nov-18	13:30	QC-FB	Total Phosphorus, mixed forms	as P	Unfiltered	<0.002	mg/l		0.002	0.003
SS-01	29-Nov-18	17:00	QC-FD	Total Phosphorus, mixed forms	as P	Unfiltered	0.083	mg/l		0.002	0.003
SS-15G	29-Nov-18	14:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.032	mg/l		0.002	0.003
SS-01	29-Nov-18	17:00	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.085	mg/l		0.002	0.003
SS-05A	29-Nov-18	15:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.137	mg/l		0.002	0.003
SS-06G	29-Nov-18	14:30	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.096	mg/l		0.002	0.003
SS-07	29-Nov-18	13:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.079	mg/l		0.002	0.003
SS-08	29-Nov-18	12:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.091	mg/l		0.002	0.003
SS-10A	29-Nov-18	11:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.078	mg/l		0.002	0.003
SS-11C	29-Nov-18	9:45	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.067	mg/l		0.002	0.003
SS-11D	29-Nov-18	9:15	S-ROUTINE	Total Phosphorus, mixed forms	as P	Unfiltered	0.074	mg/l		0.002	0.003
SS-07	29-Nov-18	13:30	QC-FB	Total suspended solids		NA	<0.3	mg/l		0.3	1
SS-01	29-Nov-18	17:00	QC-FD	Total suspended solids		NA	5	mg/l		0.3	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Total suspended solids		NA	2	mg/l		0.3	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Total suspended solids		NA	5	mg/l		0.3	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Total suspended solids		NA	18	mg/l		0.3	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Total suspended solids		NA	10	mg/l		0.3	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Total suspended solids		NA	8	mg/l		0.3	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Total suspended solids		NA	12	mg/l		0.3	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Total suspended solids		NA	7	mg/l		0.3	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Total suspended solids		NA	3	mg/l		0.3	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Total suspended solids		NA	4	mg/l		0.3	1
SS-01	29-Nov-18	17:00	F-MSR/OBS	Turbidity		NA	4.3	NTU			
SS-05A	29-Nov-18	15:30	F-MSR/OBS	Turbidity		NA	7.9	NTU			
SS-06G	29-Nov-18	14:30	F-MSR/OBS	Turbidity		NA	5	NTU			
SS-07	29-Nov-18	13:45	F-MSR/OBS	Turbidity		NA	2.5	NTU			
SS-08	29-Nov-18	12:45	F-MSR/OBS	Turbidity		NA	6.8	NTU			

SS-10A	29-Nov-18	11:15	F-MSR/OBS	Turbidity		NA	4.2	NTU			
SS-11C	29-Nov-18	9:45	F-MSR/OBS	Turbidity		NA	2.2	NTU			
SS-11D	29-Nov-18	9:15	F-MSR/OBS	Turbidity		NA	2.7	NTU			
SS-07	29-Nov-18	13:30	QC-FB	Uranium-238		Dissolved	<0.00001	mg/l		0.00001	0.0002
SS-01	29-Nov-18	17:00	QC-FD	Uranium-238		Dissolved	0.0029	mg/l		0.00001	0.0002
SS-15G	29-Nov-18	14:00	S-ROUTINE	Uranium-238		Dissolved	0.0009	mg/l		0.00001	0.0002
SS-01	29-Nov-18	17:00	S-ROUTINE	Uranium-238		Dissolved	0.0029	mg/l		0.00001	0.0002
SS-05A	29-Nov-18	15:30	S-ROUTINE	Uranium-238		Dissolved	0.0039	mg/l		0.00001	0.0002
SS-06G	29-Nov-18	14:30	S-ROUTINE	Uranium-238		Dissolved	0.0047	mg/l		0.00001	0.0002
SS-07	29-Nov-18	13:45	S-ROUTINE	Uranium-238		Dissolved	0.004	mg/l		0.00001	0.0002
SS-08	29-Nov-18	12:45	S-ROUTINE	Uranium-238		Dissolved	0.0054	mg/l		0.00001	0.0002
SS-10A	29-Nov-18	11:15	S-ROUTINE	Uranium-238		Dissolved	0.0058	mg/l		0.00001	0.0002
SS-11C	29-Nov-18	9:45	S-ROUTINE	Uranium-238		Dissolved	0.006	mg/l		0.00001	0.0002
SS-11D	29-Nov-18	9:15	S-ROUTINE	Uranium-238		Dissolved	0.0055	mg/l		0.00001	0.0002
SS-07	29-Nov-18	13:30	QC-FB	Uranium-238		Total Recv	<0.000009	mg/l		0.000009	0.0002
SS-01	29-Nov-18	17:00	QC-FD	Uranium-238		Total Recv	0.0032	mg/l		0.000009	0.0002
SS-15G	29-Nov-18	14:00	S-ROUTINE	Uranium-238		Total Recv	0.0009	mg/l		0.000009	0.0002
SS-01	29-Nov-18	17:00	S-ROUTINE	Uranium-238		Total Recv	0.0031	mg/l		0.000009	0.0002
SS-05A	29-Nov-18	15:30	S-ROUTINE	Uranium-238		Total Recv	0.0042	mg/l		0.000009	0.0002
SS-06G	29-Nov-18	14:30	S-ROUTINE	Uranium-238		Total Recv	0.005	mg/l		0.000009	0.0002
SS-07	29-Nov-18	13:45	S-ROUTINE	Uranium-238		Total Recv	0.0043	mg/l		0.000009	0.0002
SS-08	29-Nov-18	12:45	S-ROUTINE	Uranium-238		Total Recv	0.0062	mg/l		0.000009	0.0002
SS-10A	29-Nov-18	11:15	S-ROUTINE	Uranium-238		Total Recv	0.0061	mg/l		0.000009	0.0002
SS-11C	29-Nov-18	9:45	S-ROUTINE	Uranium-238		Total Recv	0.0062	mg/l		0.000009	0.0002
SS-11D	29-Nov-18	9:15	S-ROUTINE	Uranium-238		Total Recv	0.0059	mg/l		0.000009	0.0002
SS-07	29-Nov-18	13:30	QC-FB	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-01	29-Nov-18	17:00	QC-FD	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Vanadium		Dissolved	0.001	mg/l	J	0.00007	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Vanadium		Dissolved	0.0017	mg/l	J	0.00007	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Vanadium		Dissolved	0.002	mg/l	J	0.00007	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-08	29-Nov-18	12:45	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Vanadium		Dissolved	<0.00007	mg/l		0.00007	0.1
SS-07	29-Nov-18	13:30	QC-FB	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-01	29-Nov-18	17:00	QC-FD	Vanadium		Total Recv	0.0026	mg/l	J	0.00002	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Vanadium		Total Recv	0.0014	mg/l	J	0.00002	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Vanadium		Total Recv	0.0026	mg/l	J	0.00002	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Vanadium		Total Recv	0.0039	mg/l	J	0.00002	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-08	29-Nov-18	12:45	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Vanadium		Total Recv	<0.00002	mg/l		0.00002	0.1
SS-07	29-Nov-18	13:30	QC-FB	Zinc		Dissolved	0.016	mg/l		0.0003	0.008
SS-01	29-Nov-18	17:00	QC-FD	Zinc		Dissolved	0.0058	mg/l	J	0.0003	0.008
SS-15G	29-Nov-18	14:00	S-ROUTINE	Zinc		Dissolved	0.0044	mg/l	J	0.0003	0.008
SS-01	29-Nov-18	17:00	S-ROUTINE	Zinc		Dissolved	0.0062	mg/l	J	0.0003	0.008
SS-05A	29-Nov-18	15:30	S-ROUTINE	Zinc		Dissolved	0.027	mg/l	B	0.0003	0.008

SS-06G	29-Nov-18	14:30	S-ROUTINE	Zinc		Dissolved	0.035	mg/l	B	0.0003	0.008
SS-07	29-Nov-18	13:45	S-ROUTINE	Zinc		Dissolved	0.053	mg/l	B	0.0003	0.008
SS-08	29-Nov-18	12:45	S-ROUTINE	Zinc		Dissolved	0.062	mg/l	B	0.0003	0.008
SS-10A	29-Nov-18	11:15	S-ROUTINE	Zinc		Dissolved	0.11	mg/l		0.0003	0.008
SS-11C	29-Nov-18	9:45	S-ROUTINE	Zinc		Dissolved	0.156	mg/l		0.0003	0.008
SS-11D	29-Nov-18	9:15	S-ROUTINE	Zinc		Dissolved	0.139	mg/l		0.0003	0.008
SS-07	29-Nov-18	13:30	QC-FB	Zinc		Total Recv	<0.001	mg/l		0.001	0.008
SS-01	29-Nov-18	17:00	QC-FD	Zinc		Total Recv	0.005	mg/l	J	0.001	0.008
SS-15G	29-Nov-18	14:00	S-ROUTINE	Zinc		Total Recv	0.002	mg/l	J	0.001	0.008
SS-01	29-Nov-18	17:00	S-ROUTINE	Zinc		Total Recv	0.006	mg/l	J	0.001	0.008
SS-05A	29-Nov-18	15:30	S-ROUTINE	Zinc		Total Recv	0.055	mg/l		0.001	0.008
SS-06G	29-Nov-18	14:30	S-ROUTINE	Zinc		Total Recv	0.061	mg/l		0.001	0.008
SS-07	29-Nov-18	13:45	S-ROUTINE	Zinc		Total Recv	0.068	mg/l		0.001	0.008
SS-08	29-Nov-18	12:45	S-ROUTINE	Zinc		Total Recv	0.109	mg/l		0.001	0.008
SS-10A	29-Nov-18	11:15	S-ROUTINE	Zinc		Total Recv	0.138	mg/l		0.001	0.008
SS-11C	29-Nov-18	9:45	S-ROUTINE	Zinc		Total Recv	0.167	mg/l		0.001	0.008
SS-11D	29-Nov-18	9:15	S-ROUTINE	Zinc		Total Recv	0.154	mg/l		0.001	0.008

APPENDIX D

Sediment Data

Table D-1. Fine fraction instream sediment sample results in the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SLAG-01	22-Mar-18	15:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	204	mg/kg		1	5
SLAG-01	22-Mar-18	15:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	19.9	mg/kg		0.1	0.2
SLAG-01	22-Mar-18	15:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1580	mg/kg		4	5
SLAG-01	22-Mar-18	15:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	644	mg/kg		10	10
SLAG-01	22-Mar-18	15:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	3100	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	23800	mg/kg		10	10
SS-01	22-Mar-18	16:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	42	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	318	mg/kg		0.8	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.6	mg/kg	J	0.4	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		3	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.9	mg/kg		0.1	0.2
SS-01	22-Mar-18	16:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	59	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		0.1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	343	mg/kg		4	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	36400	mg/kg	D	100	100
SS-01	22-Mar-18	16:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	150	mg/kg		0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1260	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	17	mg/kg		0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	27	mg/kg		0.3	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1	mg/kg	J	1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	9	mg/kg		0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	106	mg/kg		0.4	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	441	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.44	mg/kg		0.00024	0.1
SS-04	22-Mar-18	16:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	113	mg/kg		1	5
SS-04	22-Mar-18	16:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6.5	mg/kg		0.1	0.2
SS-04	22-Mar-18	16:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	734	mg/kg		4	5
SS-04	22-Mar-18	16:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	244	mg/kg		0.2	5
SS-04	22-Mar-18	16:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1750	mg/kg		1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	2.6	mg/kg	J	0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	267	mg/kg		1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	336	mg/kg		0.7	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.4	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	11.7	mg/kg		0.1	0.2
SS-05A	22-Mar-18	15:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	57	mg/kg		1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		0.1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	3330	mg/kg		4	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	43300	mg/kg	D	90	90
SS-05A	22-Mar-18	15:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	659	mg/kg		0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2060	mg/kg		0.9	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	13	mg/kg		0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	24	mg/kg		0.3	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2	mg/kg	J	0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	10	mg/kg		1	5

SS-05A	22-Mar-18	15:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	86	mg/kg		0.4	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2220	mg/kg		1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.83	mg/kg		0.00024	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	17900	mg/kg		10	10
SS-06G	22-Mar-18	2:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	14900	mg/kg		10	10
SS-06G	22-Mar-18	2:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	1	mg/kg	J	0.2	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	104	mg/kg		1	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	656	mg/kg		0.8	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.5	mg/kg	J	0.4	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	9.8	mg/kg		0.1	0.2
SS-06G	22-Mar-18	2:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	69	mg/kg		1	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	29	mg/kg		0.1	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	674	mg/kg		4	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	32800	mg/kg	D	90	90
SS-06G	22-Mar-18	2:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	353	mg/kg		0.2	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	14100	mg/kg		1	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	13	mg/kg		0.2	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	47	mg/kg		0.3	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.5	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	4	mg/kg	J	1	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.7	mg/kg	J	0.2	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	77	mg/kg		0.4	1
SS-06G	22-Mar-18	2:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1830	mg/kg		1	5
SS-06G	22-Mar-18	2:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.78	mg/kg		0.00025	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	14200	mg/kg		10	10
SS-07	22-Mar-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	147	mg/kg		1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	293	mg/kg		0.9	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6.8	mg/kg		0.1	0.2
SS-07	22-Mar-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	47	mg/kg		1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		0.2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	612	mg/kg		5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	37800	mg/kg	D	100	100
SS-07	22-Mar-18	14:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	288	mg/kg		0.2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	3460	mg/kg		1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	12	mg/kg		0.3	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	29	mg/kg		0.3	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	4	mg/kg	J	1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	6	mg/kg		0.2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	61	mg/kg		0.5	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1600	mg/kg		1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.68	mg/kg		0.00029	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	13400	mg/kg		10	10
SS-08	22-Mar-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.6	mg/kg	J	0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	45	mg/kg		1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	224	mg/kg		0.9	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.5	mg/kg		0.5	5

SS-08	22-Mar-18	12:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	9.5	mg/kg		0.1	0.2
SS-08	22-Mar-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	30	mg/kg		1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	9	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	607	mg/kg		5	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	23100	mg/kg	D	100	100
SS-08	22-Mar-18	12:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	227	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2040	mg/kg		1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	8	mg/kg		0.3	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	18	mg/kg		0.3	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.6	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	3	mg/kg	J	1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	5	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	44	mg/kg		0.5	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1780	mg/kg		2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.3	mg/kg		0.0015	0.15
SS-08	22-Mar-18	12:45	QC-FD	Aluminum	SED_SIEVE_<0.065mm	13900	mg/kg		10	10
SS-08	22-Mar-18	12:45	QC-FD	Antimony	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Arsenic	SED_SIEVE_<0.065mm	53	mg/kg		1	5
SS-08	22-Mar-18	12:45	QC-FD	Barium	SED_SIEVE_<0.065mm	247	mg/kg		0.9	5
SS-08	22-Mar-18	12:45	QC-FD	Beryllium	SED_SIEVE_<0.065mm	0.6	mg/kg	J	0.5	5
SS-08	22-Mar-18	12:45	QC-FD	Boron	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-08	22-Mar-18	12:45	QC-FD	Cadmium	SED_SIEVE_<0.065mm	12.4	mg/kg		0.1	0.2
SS-08	22-Mar-18	12:45	QC-FD	Chromium	SED_SIEVE_<0.065mm	34	mg/kg		1	5
SS-08	22-Mar-18	12:45	QC-FD	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Copper	SED_SIEVE_<0.065mm	706	mg/kg		5	5
SS-08	22-Mar-18	12:45	QC-FD	Iron	SED_SIEVE_<0.065mm	24800	mg/kg	D	100	100
SS-08	22-Mar-18	12:45	QC-FD	Lead	SED_SIEVE_<0.065mm	265	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Manganese	SED_SIEVE_<0.065mm	2280	mg/kg		1	5
SS-08	22-Mar-18	12:45	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	8	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Nickel	SED_SIEVE_<0.065mm	19	mg/kg		0.3	5
SS-08	22-Mar-18	12:45	QC-FD	Selenium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.6	5
SS-08	22-Mar-18	12:45	QC-FD	Silver	SED_SIEVE_<0.065mm	4	mg/kg	J	1	5
SS-08	22-Mar-18	12:45	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	7	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Vanadium	SED_SIEVE_<0.065mm	53	mg/kg		0.4	1
SS-08	22-Mar-18	12:45	QC-FD	Zinc	SED_SIEVE_<0.065mm	2140	mg/kg		1	5
SS-08	22-Mar-18	12:45	QC-FD	Mercury	SED_SIEVE_<0.065mm	1.5	mg/kg		0.0013	0.13
SS-10A	22-Mar-18	11:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	32100	mg/kg		10	10
SS-10A	22-Mar-18	11:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	43	mg/kg		1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	243	mg/kg		0.9	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.5	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	9.7	mg/kg		0.1	0.2
SS-10A	22-Mar-18	11:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	24	mg/kg		1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	714	mg/kg		5	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	31000	mg/kg	D	100	100
SS-10A	22-Mar-18	11:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	187	mg/kg		0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1650	mg/kg		1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	5	mg/kg		0.3	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	15	mg/kg		0.3	5

SS-10A	22-Mar-18	11:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.6	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2	mg/kg	J	1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.3	mg/kg	J	0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	45	mg/kg		0.5	1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1900	mg/kg		1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.88	mg/kg		0.00028	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	25000	mg/kg		10	10
SS-11C	22-Mar-18	9:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.6	mg/kg	J	0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	37	mg/kg		1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	502	mg/kg		0.8	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.4	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5.9	mg/kg		0.1	0.2
SS-11C	22-Mar-18	9:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	26	mg/kg		1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		0.1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	597	mg/kg		4	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28600	mg/kg	D	90	90
SS-11C	22-Mar-18	9:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	148	mg/kg		0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	5520	mg/kg		1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	7	mg/kg		0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	16	mg/kg		0.3	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2	mg/kg	J	1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.5	mg/kg	J	0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	56	mg/kg		0.4	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1230	mg/kg		1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.61	mg/kg		0.00025	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24500	mg/kg		10	10
SS-11D	22-Mar-18	8:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.4	mg/kg	J	0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	30	mg/kg		1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	373	mg/kg		0.7	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.4	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6.5	mg/kg		0.1	0.2
SS-11D	22-Mar-18	8:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	37	mg/kg		1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	10	mg/kg		0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	359	mg/kg		4	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	22900	mg/kg	D	80	80
SS-11D	22-Mar-18	8:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	126	mg/kg		0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2150	mg/kg		0.9	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	3.1	mg/kg	J	0.2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	21	mg/kg		0.2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.5	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1	mg/kg	J	0.9	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3.9	mg/kg	J	0.2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	43	mg/kg		0.4	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1180	mg/kg		1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.37	mg/kg		0.00022	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	26300	mg/kg		10	10
SS-13	21-Mar-18	17:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.7	mg/kg	J	0.2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	39	mg/kg		1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	383	mg/kg		0.9	5

SS-13	21-Mar-18	17:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.5	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	10.6	mg/kg		0.1	0.2
SS-13	21-Mar-18	17:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	30	mg/kg		1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		0.2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	617	mg/kg		5	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	30300	mg/kg	D	100	100
SS-13	21-Mar-18	17:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	141	mg/kg		0.2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	4410	mg/kg		1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	6	mg/kg		0.3	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	17	mg/kg		0.3	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2	mg/kg	J	1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.9	mg/kg	J	0.2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	58	mg/kg		0.5	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2100	mg/kg		1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.74	mg/kg		0.00027	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	22800	mg/kg		20	20
SS-14	21-Mar-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.9	mg/kg	J	0.3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	47	mg/kg		2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	404	mg/kg		1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	19	mg/kg		3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	11	mg/kg		0.2	0.2
SS-14	21-Mar-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	33	mg/kg		2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	15	mg/kg		0.2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	866	mg/kg		7	7
SS-14	21-Mar-18	16:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	27800	mg/kg	D	200	200
SS-14	21-Mar-18	16:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	171	mg/kg		0.3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	6080	mg/kg		2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	6	mg/kg		0.4	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	20	mg/kg		0.4	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.1	mg/kg	J	0.9	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2	mg/kg	J	2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3.7	mg/kg	J	0.3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	54	mg/kg		0.7	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2480	mg/kg		2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.85	mg/kg		0.0004	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	35100	mg/kg		9	9
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.6	mg/kg	J	0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	33	mg/kg		1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	520	mg/kg		0.6	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.4	mg/kg	J	0.4	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.9	mg/kg		0.1	0.2
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	34	mg/kg		1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	376	mg/kg		4	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	30500	mg/kg	D	80	80
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	151	mg/kg		0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2540	mg/kg		0.8	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.1	mg/kg	J	0.2	5

SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	20	mg/kg		0.2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	0.7	mg/kg	J	0.4	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.9	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	55	mg/kg		0.3	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	805	mg/kg		1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.36	mg/kg		0.0002	0.1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	31200	mg/kg		9	9
SS-15B	21-Mar-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	58	mg/kg		0.9	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	457	mg/kg		0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.3	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6.8	mg/kg		0.1	0.2
SS-15B	21-Mar-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	45	mg/kg		0.9	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	621	mg/kg		3	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28600	mg/kg	D	70	70
SS-15B	21-Mar-18	12:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	185	mg/kg		0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2640	mg/kg		0.8	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.9	mg/kg	J	0.2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	25	mg/kg		0.2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.4	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.8	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3	mg/kg	J	0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	53	mg/kg		0.3	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1070	mg/kg		1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.73	mg/kg		0.0002	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	28400	mg/kg		10	10
SS-15G	22-Mar-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.3	mg/kg	J	0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	46	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	341	mg/kg		0.8	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.4	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		3	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.5	mg/kg		0.1	0.2
SS-15G	22-Mar-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	108	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		0.1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	84	mg/kg		4	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	26100	mg/kg	D	100	100
SS-15G	22-Mar-18	13:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	168	mg/kg		0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	785	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	58	mg/kg		0.3	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.9	mg/kg	J	0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.9	mg/kg	J	0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	56	mg/kg		0.4	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	131	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.14	mg/kg		0.00046	0.1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	29000	mg/kg		10	10
SS-16B	21-Mar-18	10:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.9	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	52	mg/kg		1	5

SS-16B	21-Mar-18	10:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	461	mg/kg		0.7	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.4	mg/kg	J	0.4	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	8.4	mg/kg		0.1	0.2
SS-16B	21-Mar-18	10:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	35	mg/kg		1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	507	mg/kg		4	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	33600	mg/kg	D	80	80
SS-16B	21-Mar-18	10:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	206	mg/kg		0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2650	mg/kg		0.9	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.3	mg/kg	J	0.2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	20	mg/kg		0.2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.5	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.1	mg/kg	J	0.9	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3.2	mg/kg	J	0.2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	67	mg/kg		0.4	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1400	mg/kg		1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.66	mg/kg		0.00021	0.1
SS-16B	21-Mar-18	10:45	QC-FD	Aluminum	SED_SIEVE_<0.065mm	26900	mg/kg		8	8
SS-16B	21-Mar-18	10:45	QC-FD	Antimony	SED_SIEVE_<0.065mm	0.6	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Arsenic	SED_SIEVE_<0.065mm	41	mg/kg		0.9	5
SS-16B	21-Mar-18	10:45	QC-FD	Barium	SED_SIEVE_<0.065mm	341	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.3	5
SS-16B	21-Mar-18	10:45	QC-FD	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-16B	21-Mar-18	10:45	QC-FD	Cadmium	SED_SIEVE_<0.065mm	8.5	mg/kg		0.09	0.2
SS-16B	21-Mar-18	10:45	QC-FD	Chromium	SED_SIEVE_<0.065mm	33	mg/kg		0.9	5
SS-16B	21-Mar-18	10:45	QC-FD	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Copper	SED_SIEVE_<0.065mm	484	mg/kg		3	5
SS-16B	21-Mar-18	10:45	QC-FD	Iron	SED_SIEVE_<0.065mm	32200	mg/kg	D	70	70
SS-16B	21-Mar-18	10:45	QC-FD	Lead	SED_SIEVE_<0.065mm	163	mg/kg		0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Manganese	SED_SIEVE_<0.065mm	2670	mg/kg		0.8	5
SS-16B	21-Mar-18	10:45	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	2.2	mg/kg	J	0.2	5
SS-16B	21-Mar-18	10:45	QC-FD	Nickel	SED_SIEVE_<0.065mm	18	mg/kg		0.2	5
SS-16B	21-Mar-18	10:45	QC-FD	Selenium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.4	5
SS-16B	21-Mar-18	10:45	QC-FD	Silver	SED_SIEVE_<0.065mm	1.9	mg/kg	J	0.8	5
SS-16B	21-Mar-18	10:45	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	2.8	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Vanadium	SED_SIEVE_<0.065mm	70	mg/kg		0.3	1
SS-16B	21-Mar-18	10:45	QC-FD	Zinc	SED_SIEVE_<0.065mm	1210	mg/kg		0.9	5
SS-16B	21-Mar-18	10:45	QC-FD	Mercury	SED_SIEVE_<0.065mm	0.58	mg/kg		0.00019	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24200	mg/kg		9	9
SS-17D	21-Mar-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	0.5	mg/kg	J	0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	44	mg/kg		1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	336	mg/kg		0.7	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.4	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	10.1	mg/kg		0.1	0.2
SS-17D	21-Mar-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	32	mg/kg		1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	569	mg/kg		4	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28300	mg/kg	D	80	80
SS-17D	21-Mar-18	9:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	161	mg/kg		0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2570	mg/kg		0.8	5

SS-17D	21-Mar-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.6	mg/kg	J	0.2	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	17	mg/kg		0.2	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.4	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.1	mg/kg	J	0.9	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.9	mg/kg	J	0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	60	mg/kg		0.3	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1310	mg/kg		1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.74	mg/kg		0.0002	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24600	mg/kg		10	10
SS-19	21-Mar-18	8:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	1	mg/kg	J	0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	77	mg/kg		1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	302	mg/kg		0.6	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.4	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	8	mg/kg		2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	11.3	mg/kg		0.1	0.2
SS-19	21-Mar-18	8:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	67	mg/kg		1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	635	mg/kg		4	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	31300	mg/kg	D	80	80
SS-19	21-Mar-18	8:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	334	mg/kg		0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1460	mg/kg		0.9	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	4.7	mg/kg	J	0.2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	40	mg/kg		0.2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.9	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	6	mg/kg		0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	70	mg/kg		0.4	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1620	mg/kg		1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.99	mg/kg		0.00037	0.1
SS-06G	7-Jun-18	14:45	QC-FD	Aluminum	SED_SIEVE_<0.065mm	23800	mg/kg	D	60	60
SS-06G	7-Jun-18	14:45	QC-FD	Antimony	SED_SIEVE_<0.065mm	<5	mg/kg		5	5
SS-06G	7-Jun-18	14:45	QC-FD	Arsenic	SED_SIEVE_<0.065mm	173	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Barium	SED_SIEVE_<0.065mm	664	mg/kg		5	5
SS-06G	7-Jun-18	14:45	QC-FD	Beryllium	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-06G	7-Jun-18	14:45	QC-FD	Boron	SED_SIEVE_<0.065mm	14	mg/kg		5	5
SS-06G	7-Jun-18	14:45	QC-FD	Cadmium	SED_SIEVE_<0.065mm	12.8	mg/kg		0.5	0.5
SS-06G	7-Jun-18	14:45	QC-FD	Chromium	SED_SIEVE_<0.065mm	191	mg/kg		3	5
SS-06G	7-Jun-18	14:45	QC-FD	Cobalt	SED_SIEVE_<0.065mm	30	mg/kg		5	5
SS-06G	7-Jun-18	14:45	QC-FD	Copper	SED_SIEVE_<0.065mm	1130	mg/kg		20	20
SS-06G	7-Jun-18	14:45	QC-FD	Iron	SED_SIEVE_<0.065mm	47200	mg/kg	D	300	300
SS-06G	7-Jun-18	14:45	QC-FD	Lead	SED_SIEVE_<0.065mm	871	mg/kg		2	5
SS-06G	7-Jun-18	14:45	QC-FD	Manganese	SED_SIEVE_<0.065mm	12000	mg/kg		5	5
SS-06G	7-Jun-18	14:45	QC-FD	Mercury	SED_SIEVE_<0.065mm	1.1	mg/kg		0.011	0.1
SS-06G	7-Jun-18	14:45	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	22	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Nickel	SED_SIEVE_<0.065mm	102	mg/kg		2	5
SS-06G	7-Jun-18	14:45	QC-FD	Selenium	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-06G	7-Jun-18	14:45	QC-FD	Silver	SED_SIEVE_<0.065mm	69	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.6	5
SS-06G	7-Jun-18	14:45	QC-FD	Vanadium	SED_SIEVE_<0.065mm	106	mg/kg		2	2
SS-06G	7-Jun-18	14:45	QC-FD	Zinc	SED_SIEVE_<0.065mm	2310	mg/kg	D	20	20
SS-15A-2	6-Jun-18	13:30	QC-FD	Aluminum	SED_SIEVE_<0.065mm	35900	mg/kg	D	20	20
SS-15A-2	6-Jun-18	13:30	QC-FD	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5

SS-15A-2	6-Jun-18	13:30	QC-FD	Arsenic	SED_SIEVE_<0.065mm	35	mg/kg		0.4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Barium	SED_SIEVE_<0.065mm	559	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Beryllium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.6	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Boron	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Cadmium	SED_SIEVE_<0.065mm	6	mg/kg		0.2	0.2
SS-15A-2	6-Jun-18	13:30	QC-FD	Chromium	SED_SIEVE_<0.065mm	31	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Cobalt	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Copper	SED_SIEVE_<0.065mm	332	mg/kg		6	6
SS-15A-2	6-Jun-18	13:30	QC-FD	Iron	SED_SIEVE_<0.065mm	28900	mg/kg	D	100	100
SS-15A-2	6-Jun-18	13:30	QC-FD	Lead	SED_SIEVE_<0.065mm	133	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Manganese	SED_SIEVE_<0.065mm	918	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Mercury	SED_SIEVE_<0.065mm	0.36	mg/kg		0.006	0.1
SS-15A-2	6-Jun-18	13:30	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Nickel	SED_SIEVE_<0.065mm	17	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Silver	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Vanadium	SED_SIEVE_<0.065mm	54	mg/kg		0.8	1
SS-15A-2	6-Jun-18	13:30	QC-FD	Zinc	SED_SIEVE_<0.065mm	826	mg/kg		6	6
SLAG-01	7-Jun-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	192	mg/kg		0.4	5
SLAG-01	7-Jun-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	16.7	mg/kg		0.2	0.2
SLAG-01	7-Jun-18	16:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1700	mg/kg		6	6
SLAG-01	7-Jun-18	16:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	761	mg/kg		0.8	5
SLAG-01	7-Jun-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2370	mg/kg		7	7
SS-01	7-Jun-18	17:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	16500	mg/kg	D	20	20
SS-01	7-Jun-18	17:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	31	mg/kg		0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	195	mg/kg		2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	0.9	mg/kg		0.2	0.2
SS-01	7-Jun-18	17:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	41	mg/kg	J	1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	8	mg/kg		2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	182	mg/kg		7	7
SS-01	7-Jun-18	17:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	27600	mg/kg	D	100	100
SS-01	7-Jun-18	17:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	173	mg/kg		0.9	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	634	mg/kg	J	2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.2	mg/kg		0.0076	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	13	mg/kg		0.4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	18	mg/kg		0.9	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.1	mg/kg	J	0.9	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.1	mg/kg		0.4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	8	mg/kg		0.2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	89	mg/kg		0.9	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	287	mg/kg		7	7
SS-04	7-Jun-18	16:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	211	mg/kg		0.4	5
SS-04	7-Jun-18	16:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	7.7	mg/kg		0.2	0.2
SS-04	7-Jun-18	16:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1520	mg/kg		6	6
SS-04	7-Jun-18	16:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	587	mg/kg		0.8	5
SS-04	7-Jun-18	16:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1720	mg/kg		7	7
SS-05A	7-Jun-18	16:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	21700	mg/kg	D	20	20
SS-05A	7-Jun-18	16:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	4	mg/kg	J	2	5

SS-05A	7-Jun-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	335	mg/kg		0.5	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	391	mg/kg		2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.9	mg/kg	J	0.7	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	14.6	mg/kg		0.2	0.2
SS-05A	7-Jun-18	16:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	113	mg/kg	J	1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	16	mg/kg		2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	3480	mg/kg		7	7
SS-05A	7-Jun-18	16:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	53500	mg/kg	D	100	100
SS-05A	7-Jun-18	16:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	812	mg/kg		0.9	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1910	mg/kg	J	2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.2	mg/kg		0.038	0.11
SS-05A	7-Jun-18	16:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	14	mg/kg		0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	45	mg/kg	J	0.9	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.6	mg/kg	J	0.8	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	10	mg/kg		0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	12	mg/kg		0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	118	mg/kg		0.9	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2890	mg/kg		7	7
SS-06G	7-Jun-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24000	mg/kg	D	30	30
SS-06G	7-Jun-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	3	mg/kg	J	2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	170	mg/kg		0.6	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	506	mg/kg		3	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.8	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	15	mg/kg		3	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	13.8	mg/kg		0.3	0.3
SS-06G	7-Jun-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	127	mg/kg	J	2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	24	mg/kg		3	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1240	mg/kg		8	8
SS-06G	7-Jun-18	14:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	43000	mg/kg	D	200	200
SS-06G	7-Jun-18	14:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	741	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	6280	mg/kg	J	2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.1	mg/kg		0.0089	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	21	mg/kg		0.5	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	66	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	59	mg/kg	J	0.5	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	14	mg/kg		0.3	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	103	mg/kg		1	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2570	mg/kg		9	9
SS-07	7-Jun-18	14:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	19000	mg/kg	D	30	30
SS-07	7-Jun-18	14:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	153	mg/kg		0.5	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	449	mg/kg		2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.8	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	8.9	mg/kg		0.2	0.2
SS-07	7-Jun-18	14:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	106	mg/kg	J	2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	30	mg/kg		2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1020	mg/kg		7	7
SS-07	7-Jun-18	14:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	41700	mg/kg	D	100	100
SS-07	7-Jun-18	14:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	514	mg/kg		0.9	5

SS-07	7-Jun-18	14:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	7470	mg/kg	J	2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.1	mg/kg		0.037	0.11
SS-07	7-Jun-18	14:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	19	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	56	mg/kg	J	1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.9	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	24	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.3	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	89	mg/kg		0.9	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2090	mg/kg		8	8
SS-08	7-Jun-18	12:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24600	mg/kg	D	40	40
SS-08	7-Jun-18	12:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<3	mg/kg		3	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	77	mg/kg		0.7	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	365	mg/kg		4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	11.5	mg/kg		0.3	0.3
SS-08	7-Jun-18	12:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	126	mg/kg	J	2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	626	mg/kg		10	10
SS-08	7-Jun-18	12:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	32400	mg/kg	D	200	200
SS-08	7-Jun-18	12:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	409	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	4140	mg/kg	J	3	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.2	mg/kg		0.04	0.12
SS-08	7-Jun-18	12:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	8	mg/kg		0.6	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	63	mg/kg	J	1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	8	mg/kg		0.7	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	6	mg/kg		0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	60	mg/kg		1	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1470	mg/kg		10	10
SS-10A	7-Jun-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	31300	mg/kg	D	20	20
SS-10A	7-Jun-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	35	mg/kg		0.4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	253	mg/kg		2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.7	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5.4	mg/kg		0.2	0.2
SS-10A	7-Jun-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	35	mg/kg	J	1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	341	mg/kg		6	6
SS-10A	7-Jun-18	11:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28600	mg/kg	D	100	100
SS-10A	7-Jun-18	11:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	146	mg/kg		0.9	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1760	mg/kg	J	2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.51	mg/kg		0.0079	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	3.6	mg/kg	J	0.4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	19	mg/kg		0.9	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.5	mg/kg	J	0.2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	41	mg/kg		0.9	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1050	mg/kg		7	7
SS-11C	7-Jun-18	10:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	29800	mg/kg	D	20	20

SS-11C	7-Jun-18	10:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	37	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	383	mg/kg		2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.6	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	4.5	mg/kg		0.2	0.2
SS-11C	7-Jun-18	10:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	47	mg/kg	J	1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	362	mg/kg		6	6
SS-11C	7-Jun-18	10:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	27100	mg/kg	D	100	100
SS-11C	7-Jun-18	10:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	160	mg/kg		0.8	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	3390	mg/kg	J	2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.36	mg/kg		0.0069	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	4.6	mg/kg	J	0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	29	mg/kg	J	0.8	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.8	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	7	mg/kg		0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	55	mg/kg		0.8	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	683	mg/kg		6	6
SS-11D	7-Jun-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	27600	mg/kg	D	20	20
SS-11D	7-Jun-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	39	mg/kg		0.5	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	358	mg/kg		2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.7	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6.5	mg/kg		0.2	0.2
SS-11D	7-Jun-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	61	mg/kg	J	1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	348	mg/kg		7	7
SS-11D	7-Jun-18	9:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	25200	mg/kg	D	100	100
SS-11D	7-Jun-18	9:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	183	mg/kg		0.9	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1690	mg/kg	J	2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.47	mg/kg		0.0078	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	4.2	mg/kg	J	0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	32	mg/kg	J	0.9	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.4	mg/kg	J	0.8	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.4	mg/kg	J	0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	58	mg/kg		0.9	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1170	mg/kg		7	7
SS-13	6-Jun-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	28200	mg/kg	D	20	20
SS-13	6-Jun-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	40	mg/kg		0.5	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	412	mg/kg		2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.7	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	11	mg/kg		0.2	0.2
SS-13	6-Jun-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	72	mg/kg		2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	465	mg/kg		7	7
SS-13	6-Jun-18	16:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	25900	mg/kg	D	100	100

SS-13	6-Jun-18	16:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	178	mg/kg		0.9	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2150	mg/kg		2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.47	mg/kg		0.01	0.1
SS-13	6-Jun-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	4.5	mg/kg	J	0.4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	37	mg/kg		0.9	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.9	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.1	mg/kg	J	0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	54	mg/kg		0.9	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1910	mg/kg		8	8
SS-14	6-Jun-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	26600	mg/kg	D	30	30
SS-14	6-Jun-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<3	mg/kg		3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	49	mg/kg		0.6	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	423	mg/kg		3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.9	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	13	mg/kg		3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	9.7	mg/kg		0.3	0.3
SS-14	6-Jun-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	49	mg/kg		2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	664	mg/kg		9	9
SS-14	6-Jun-18	14:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28700	mg/kg	D	200	200
SS-14	6-Jun-18	14:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	176	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2410	mg/kg		3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.78	mg/kg		0.0099	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	6	mg/kg		0.5	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	25	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1	mg/kg	J	1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.5	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.3	mg/kg	J	0.3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	62	mg/kg		1	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1960	mg/kg		9	9
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	37800	mg/kg	D	20	20
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	38	mg/kg		0.4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	586	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.7	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	14	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5.9	mg/kg		0.2	0.2
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	38	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	369	mg/kg		6	6
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	30200	mg/kg	D	100	100
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	136	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	971	mg/kg		2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.48	mg/kg		0.0072	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	21	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.9	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	56	mg/kg		0.8	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	928	mg/kg		7	7

SS-15B	6-Jun-18	12:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	26100	mg/kg	D	20	20
SS-15B	6-Jun-18	12:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	5	mg/kg	J	2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	309	mg/kg		0.5	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	402	mg/kg		2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.7	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	17.2	mg/kg		0.2	0.2
SS-15B	6-Jun-18	12:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	50	mg/kg		2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	15	mg/kg		2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	3240	mg/kg		7	7
SS-15B	6-Jun-18	12:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	35100	mg/kg	D	100	100
SS-15B	6-Jun-18	12:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	874	mg/kg		0.9	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	823	mg/kg		2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	6.3	mg/kg	D	0.38	1.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	14	mg/kg		0.4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	28	mg/kg		0.9	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.9	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	14	mg/kg		0.4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	15	mg/kg		0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	76	mg/kg		0.9	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	3390	mg/kg		8	8
SS-15G	6-Jun-18	13:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	36100	mg/kg	D	30	30
SS-15G	6-Jun-18	13:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	63	mg/kg		0.5	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	311	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.8	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	8	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.4	mg/kg		0.2	0.2
SS-15G	6-Jun-18	13:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	62	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	105	mg/kg		7	7
SS-15G	6-Jun-18	13:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28400	mg/kg	D	100	100
SS-15G	6-Jun-18	13:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	54	mg/kg		0.9	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	573	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.3	mg/kg		0.0077	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	35	mg/kg		1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.3	mg/kg	J	0.9	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	0.5	mg/kg	J	0.4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.4	mg/kg	J	0.3	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	66	mg/kg		0.9	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	157	mg/kg		8	8
SS-16B	6-Jun-18	11:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	31000	mg/kg	D	20	20
SS-16B	6-Jun-18	11:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	29	mg/kg		0.4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	386	mg/kg		2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.6	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.5	mg/kg		0.2	0.2
SS-16B	6-Jun-18	11:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	33	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	243	mg/kg		5	5

SS-16B	6-Jun-18	11:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	30500	mg/kg	D	100	100
SS-16B	6-Jun-18	11:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	95	mg/kg		0.7	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1380	mg/kg		2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.44	mg/kg		0.0059	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1	mg/kg	J	0.3	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	18	mg/kg		0.7	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.4	mg/kg	J	0.3	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.4	mg/kg	J	0.2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	61	mg/kg		0.7	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	524	mg/kg		6	6
SS-17D	6-Jun-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	36300	mg/kg	D	20	20
SS-17D	6-Jun-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	36	mg/kg		0.4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	327	mg/kg		2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.6	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	4.5	mg/kg		0.2	0.2
SS-17D	6-Jun-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	37	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	313	mg/kg		6	6
SS-17D	6-Jun-18	9:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	38300	mg/kg	D	100	100
SS-17D	6-Jun-18	9:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	110	mg/kg		0.7	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1790	mg/kg		2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.51	mg/kg		0.0064	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.3	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	20	mg/kg		0.8	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.3	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3.3	mg/kg	J	0.2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	87	mg/kg		0.7	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	776	mg/kg		6	6
SS-19	6-Jun-18	9:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	26000	mg/kg	D	40	40
SS-19	6-Jun-18	9:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<3	mg/kg		3	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	53	mg/kg		0.7	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	368	mg/kg		4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	4.8	mg/kg		0.3	0.3
SS-19	6-Jun-18	9:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	80	mg/kg		2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	243	mg/kg		10	10
SS-19	6-Jun-18	9:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	39800	mg/kg	D	200	200
SS-19	6-Jun-18	9:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	220	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1210	mg/kg		3	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.31	mg/kg		0.0081	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.6	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	40	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	4.2	mg/kg	J	0.7	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	7	mg/kg		0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	87	mg/kg		1	1

SS-19	6-Jun-18	9:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1330	mg/kg	D	10	10
SS-13	12-Sep-18	17:05	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	32400	mg/kg	D	20	20
SS-13	12-Sep-18	17:05	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	40	mg/kg		0.4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	645	mg/kg		2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.7	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5.8	mg/kg		0.2	0.2
SS-13	12-Sep-18	17:05	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	58	mg/kg		1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	16	mg/kg		2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	399	mg/kg		4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	29000	mg/kg	D	100	100
SS-13	12-Sep-18	17:05	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	150	mg/kg		0.8	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	3870	mg/kg		2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.59	mg/kg		0.06	0.18
SS-13	12-Sep-18	17:05	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	3.6	mg/kg	J	0.4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	31	mg/kg		0.9	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.8	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3.9	mg/kg	J	0.2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	59	mg/kg		0.9	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1340	mg/kg		7	7
SS-14	12-Sep-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	33300	mg/kg	D	30	30
SS-14	12-Sep-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	35	mg/kg		0.5	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	579	mg/kg		2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.8	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	16	mg/kg		3	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5	mg/kg		0.2	0.2
SS-14	12-Sep-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	54	mg/kg		2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	16	mg/kg		3	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	412	mg/kg		4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	33800	mg/kg	D	100	100
SS-14	12-Sep-18	16:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	134	mg/kg		1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	4070	mg/kg		2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.41	mg/kg		0.064	0.19
SS-14	12-Sep-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	3.1	mg/kg	J	0.4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	33	mg/kg		1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.9	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.5	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3.3	mg/kg	J	0.3	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	65	mg/kg		1	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1400	mg/kg		8	8
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	35400	mg/kg	D	20	20
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	34	mg/kg		0.5	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	491	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.7	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	15	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.9	mg/kg		0.2	0.2
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	31	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		2	5

SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	333	mg/kg		4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	32100	mg/kg	D	100	100
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	114	mg/kg		0.9	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2090	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.33	mg/kg		0.06	0.18
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	20	mg/kg		0.9	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.4	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	57	mg/kg		0.9	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	928	mg/kg	D	30	30
SS-15B	12-Sep-18	13:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	29100	mg/kg	D	20	20
SS-15B	12-Sep-18	13:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	83	mg/kg		0.5	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	545	mg/kg		2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.7	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6.3	mg/kg		0.2	0.2
SS-15B	12-Sep-18	13:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	66	mg/kg		2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	576	mg/kg		4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	29200	mg/kg	D	100	100
SS-15B	12-Sep-18	13:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	253	mg/kg		0.9	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2010	mg/kg		2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.82	mg/kg		0.056	0.17
SS-15B	12-Sep-18	13:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	3.5	mg/kg	J	0.4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	39	mg/kg		0.9	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.9	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.3	mg/kg	J	0.4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	3	mg/kg	J	0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	54	mg/kg		0.9	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1290	mg/kg		8	8
SS-15G	12-Sep-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	26500	mg/kg	D	30	30
SS-15G	12-Sep-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	56	mg/kg		0.5	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	295	mg/kg		2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.8	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	8	mg/kg		2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.2	mg/kg		0.2	0.2
SS-15G	12-Sep-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	82	mg/kg		2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		6	6
SS-15G	12-Sep-18	13:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	78	mg/kg		7	7
SS-15G	12-Sep-18	13:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	27200	mg/kg	D	100	100
SS-15G	12-Sep-18	13:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	68	mg/kg		0.9	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	701	mg/kg		2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.22	mg/kg		0.036	0.11
SS-15G	12-Sep-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.4	mg/kg	J	0.4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	46	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.9	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	2.6	mg/kg	J	0.3	5

SS-15G	12-Sep-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	63	mg/kg		3	3
SS-15G	12-Sep-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	110	mg/kg		8	8
SS-16B	12-Sep-18	11:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	41900	mg/kg	D	20	20
SS-16B	12-Sep-18	11:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	44	mg/kg		0.4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	487	mg/kg		2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.7	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	4.2	mg/kg		0.2	0.2
SS-16B	12-Sep-18	11:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	47	mg/kg		1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	18	mg/kg		2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	692	mg/kg		4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	44900	mg/kg	D	100	100
SS-16B	12-Sep-18	11:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	147	mg/kg		0.8	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1520	mg/kg		2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.1	mg/kg		0.05	0.15
SS-16B	12-Sep-18	11:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	28	mg/kg		0.9	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2	mg/kg	J	0.4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.4	mg/kg	J	0.2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	116	mg/kg		0.8	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1090	mg/kg	D	30	30
SS-17D	12-Sep-18	10:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	30500	mg/kg	D	20	20
SS-17D	12-Sep-18	10:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	46	mg/kg		0.5	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	429	mg/kg		2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.7	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	10	mg/kg		0.2	0.2
SS-17D	12-Sep-18	10:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	47	mg/kg		1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	477	mg/kg		4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	38900	mg/kg	D	100	100
SS-17D	12-Sep-18	10:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	143	mg/kg		0.9	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1330	mg/kg		2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.78	mg/kg		0.049	0.15
SS-17D	12-Sep-18	10:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.4	mg/kg	J	0.4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	23	mg/kg		0.9	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	0.9	mg/kg	J	0.8	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	2.3	mg/kg	J	0.4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.7	mg/kg	J	0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	88	mg/kg		0.9	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1540	mg/kg		7	7
SS-19	12-Sep-18	8:40	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	26300	mg/kg	D	30	30
SS-19	12-Sep-18	8:40	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	64	mg/kg		0.5	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	362	mg/kg		2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.8	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	7	mg/kg		2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	70.2	mg/kg		0.2	0.2
SS-19	12-Sep-18	8:40	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	116	mg/kg		2	5

SS-19	12-Sep-18	8:40	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	15	mg/kg		2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	677	mg/kg		4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	49100	mg/kg	D	100	100
SS-19	12-Sep-18	8:40	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	280	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2950	mg/kg		2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.9	mg/kg		0.059	0.18
SS-19	12-Sep-18	8:40	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	7	mg/kg		0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	60	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.9	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	3.5	mg/kg	J	0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	8	mg/kg		0.3	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	156	mg/kg		1	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1510	mg/kg		8	8
SS-15A-2	12-Sep-18	15:00	QC-FD	Aluminum	SED_SIEVE_<0.065mm	34000	mg/kg	D	20	20
SS-15A-2	12-Sep-18	15:00	QC-FD	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Arsenic	SED_SIEVE_<0.065mm	27	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Barium	SED_SIEVE_<0.065mm	546	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Beryllium	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.6	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Boron	SED_SIEVE_<0.065mm	14	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Cadmium	SED_SIEVE_<0.065mm	3.3	mg/kg		0.2	0.2
SS-15A-2	12-Sep-18	15:00	QC-FD	Chromium	SED_SIEVE_<0.065mm	27	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Copper	SED_SIEVE_<0.065mm	323	mg/kg		3	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Iron	SED_SIEVE_<0.065mm	29200	mg/kg	D	100	100
SS-15A-2	12-Sep-18	15:00	QC-FD	Lead	SED_SIEVE_<0.065mm	98	mg/kg		0.8	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Manganese	SED_SIEVE_<0.065mm	1590	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Mercury	SED_SIEVE_<0.065mm	0.31	mg/kg		0.054	0.16
SS-15A-2	12-Sep-18	15:00	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	1.4	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Nickel	SED_SIEVE_<0.065mm	18	mg/kg		0.8	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Silver	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Vanadium	SED_SIEVE_<0.065mm	51	mg/kg		0.8	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Zinc	SED_SIEVE_<0.065mm	815	mg/kg	D	30	30
SLAG-01	13-Sep-18	15:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	413	mg/kg		0.5	5
SLAG-01	13-Sep-18	15:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	14.1	mg/kg		0.2	0.2
SLAG-01	13-Sep-18	15:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	6970	mg/kg		7	7
SLAG-01	13-Sep-18	15:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	1230	mg/kg		0.9	5
SLAG-01	13-Sep-18	15:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2400	mg/kg		7	7
SS-01	13-Sep-18	16:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	23300	mg/kg	D	20	20
SS-01	13-Sep-18	16:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	36	mg/kg		0.4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	315	mg/kg		2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.6	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.5	mg/kg		0.2	0.2
SS-01	13-Sep-18	16:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	44	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	10	mg/kg		5	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	332	mg/kg		6	6
SS-01	13-Sep-18	16:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	35000	mg/kg	D	100	100
SS-01	13-Sep-18	16:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	116	mg/kg		0.7	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	719	mg/kg		2	5

SS-01	13-Sep-18	16:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.16	mg/kg		0.034	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	18	mg/kg		0.3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	20	mg/kg		0.8	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.3	mg/kg	J	0.7	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.4	mg/kg	J	0.3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	9	mg/kg		0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	97	mg/kg		3	3
SS-01	13-Sep-18	16:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	365	mg/kg		6	6
SS-04	13-Sep-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	375	mg/kg		0.5	5
SS-04	13-Sep-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	11.8	mg/kg		0.2	0.2
SS-04	13-Sep-18	16:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	3310	mg/kg		7	7
SS-04	13-Sep-18	16:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	662	mg/kg		0.9	5
SS-04	13-Sep-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	3050	mg/kg		7	7
SS-05A	13-Sep-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	21300	mg/kg	D	20	20
SS-05A	13-Sep-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	3	mg/kg	J	2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	342	mg/kg		0.5	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	354	mg/kg		2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	0.7	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	17.8	mg/kg		0.2	0.2
SS-05A	13-Sep-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	65	mg/kg		1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	17	mg/kg		6	6
SS-05A	13-Sep-18	14:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	3180	mg/kg		6	6
SS-05A	13-Sep-18	14:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	50200	mg/kg	D	100	100
SS-05A	13-Sep-18	14:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	755	mg/kg		0.9	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2290	mg/kg		2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.4	mg/kg		0.029	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	17	mg/kg		0.4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	27	mg/kg		0.9	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.9	mg/kg	J	0.8	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	11	mg/kg		0.4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	11	mg/kg		0.2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	106	mg/kg		3	3
SS-05A	13-Sep-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	3490	mg/kg		7	7
SS-06G	13-Sep-18	13:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	16800	mg/kg	D	30	30
SS-06G	13-Sep-18	13:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	229	mg/kg		0.5	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	788	mg/kg		3	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	17	mg/kg		10	10
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	25.3	mg/kg		0.2	0.2
SS-06G	13-Sep-18	13:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	145	mg/kg		2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	38	mg/kg		3	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1170	mg/kg		4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	38400	mg/kg	D	100	100
SS-06G	13-Sep-18	13:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	694	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	18200	mg/kg		2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.1	mg/kg	D	0.14	0.42
SS-06G	13-Sep-18	13:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	23	mg/kg		0.5	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	91	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	2.5	mg/kg	J	0.9	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	4.8	mg/kg	J	0.5	5

SS-06G	13-Sep-18	13:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	9	mg/kg		0.3	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	106	mg/kg		1	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	4660	mg/kg		8	8
SS-07	13-Sep-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	16700	mg/kg	D	20	20
SS-07	13-Sep-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	241	mg/kg		0.5	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	475	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.9	mg/kg	J	0.7	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	8.7	mg/kg		0.2	0.2
SS-07	13-Sep-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	86	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	20	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1060	mg/kg		4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	60000	mg/kg	D	100	100
SS-07	13-Sep-18	13:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	554	mg/kg		0.9	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	8280	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1.3	mg/kg		0.053	0.16
SS-07	13-Sep-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	20	mg/kg		0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	47	mg/kg		0.9	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.9	mg/kg	J	0.8	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	7	mg/kg		0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	93	mg/kg		0.9	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2370	mg/kg		7	7
SS-08	13-Sep-18	12:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24300	mg/kg	D	20	20
SS-08	13-Sep-18	12:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	112	mg/kg		0.5	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	385	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.7	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	12.1	mg/kg		0.2	0.2
SS-08	13-Sep-18	12:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	69	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	15	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1090	mg/kg		4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	36900	mg/kg	D	100	100
SS-08	13-Sep-18	12:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	506	mg/kg		0.9	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	3250	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	2.8	mg/kg		0.065	0.19
SS-08	13-Sep-18	12:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	15	mg/kg		0.4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	35	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.9	mg/kg	J	0.9	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	7	mg/kg		0.4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	12	mg/kg		0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	85	mg/kg		0.9	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2350	mg/kg		8	8
SS-10A	13-Sep-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	28400	mg/kg	D	20	20
SS-10A	13-Sep-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	25	mg/kg		0.5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	344	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.9	mg/kg	J	0.7	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5	mg/kg		0.2	0.2

SS-10A	13-Sep-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	24	mg/kg		1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	349	mg/kg		4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	27200	mg/kg	D	100	100
SS-10A	13-Sep-18	11:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	102	mg/kg		0.9	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1530	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.31	mg/kg		0.067	0.2
SS-10A	13-Sep-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	2.7	mg/kg	J	0.4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	15	mg/kg		0.9	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1	mg/kg	J	0.4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.1	mg/kg	J	0.2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	45	mg/kg		0.9	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	865	mg/kg	D	30	30
SS-11C	13-Sep-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	24900	mg/kg	D	20	20
SS-11C	13-Sep-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	44	mg/kg		0.4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	472	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.7	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	12	mg/kg		0.2	0.2
SS-11C	13-Sep-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	50	mg/kg		1	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	16	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	652	mg/kg		4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28800	mg/kg	D	100	100
SS-11C	13-Sep-18	9:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	174	mg/kg		0.8	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	3690	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.53	mg/kg		0.052	0.15
SS-11C	13-Sep-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	6	mg/kg		0.4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	30	mg/kg		0.9	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.8	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	4.2	mg/kg	J	0.2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	59	mg/kg		0.8	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1820	mg/kg		7	7
SS-11D	13-Sep-18	8:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	28600	mg/kg	D	20	20
SS-11D	13-Sep-18	8:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	50	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	464	mg/kg		2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1.2	mg/kg	J	0.7	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.8	mg/kg		0.2	0.2
SS-11D	13-Sep-18	8:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	63	mg/kg		1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	321	mg/kg		4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	25800	mg/kg	D	100	100
SS-11D	13-Sep-18	8:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	228	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2940	mg/kg		2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.79	mg/kg		0.057	0.17
SS-11D	13-Sep-18	8:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	3.2	mg/kg	J	0.4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	35	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5

SS-11D	13-Sep-18	8:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	5	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	51	mg/kg		0.8	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	884	mg/kg	D	30	30
SS-11D	13-Sep-18	8:45	QC-FD	Aluminum	SED_SIEVE_<0.065mm	28200	mg/kg	D	20	20
SS-11D	13-Sep-18	8:45	QC-FD	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11D	13-Sep-18	8:45	QC-FD	Arsenic	SED_SIEVE_<0.065mm	48	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	QC-FD	Barium	SED_SIEVE_<0.065mm	441	mg/kg		2	5
SS-11D	13-Sep-18	8:45	QC-FD	Beryllium	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.6	5
SS-11D	13-Sep-18	8:45	QC-FD	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-11D	13-Sep-18	8:45	QC-FD	Cadmium	SED_SIEVE_<0.065mm	3.9	mg/kg		0.2	0.2
SS-11D	13-Sep-18	8:45	QC-FD	Chromium	SED_SIEVE_<0.065mm	68	mg/kg		1	5
SS-11D	13-Sep-18	8:45	QC-FD	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-11D	13-Sep-18	8:45	QC-FD	Copper	SED_SIEVE_<0.065mm	326	mg/kg		3	5
SS-11D	13-Sep-18	8:45	QC-FD	Iron	SED_SIEVE_<0.065mm	25700	mg/kg	D	100	100
SS-11D	13-Sep-18	8:45	QC-FD	Lead	SED_SIEVE_<0.065mm	236	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	QC-FD	Manganese	SED_SIEVE_<0.065mm	2820	mg/kg		2	5
SS-11D	13-Sep-18	8:45	QC-FD	Mercury	SED_SIEVE_<0.065mm	0.72	mg/kg		0.057	0.17
SS-11D	13-Sep-18	8:45	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	3.6	mg/kg	J	0.4	5
SS-11D	13-Sep-18	8:45	QC-FD	Nickel	SED_SIEVE_<0.065mm	37	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	QC-FD	Selenium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.8	5
SS-11D	13-Sep-18	8:45	QC-FD	Silver	SED_SIEVE_<0.065mm	1.5	mg/kg	J	0.4	5
SS-11D	13-Sep-18	8:45	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	5	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	QC-FD	Vanadium	SED_SIEVE_<0.065mm	53	mg/kg		0.8	1
SS-11D	13-Sep-18	8:45	QC-FD	Zinc	SED_SIEVE_<0.065mm	853	mg/kg	D	30	30
SS-04	29-Nov-18	16:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	255	mg/kg		0.5	5
SS-04	29-Nov-18	16:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	9.3	mg/kg		0.3	0.3
SS-04	29-Nov-18	16:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1480	mg/kg		8	8
SS-04	29-Nov-18	16:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	421	mg/kg		1	5
SS-04	29-Nov-18	16:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2290	mg/kg		8	8
SLAG-01	29-Nov-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	213	mg/kg		0.4	5
SLAG-01	29-Nov-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	23	mg/kg		0.2	0.2
SLAG-01	29-Nov-18	16:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1470	mg/kg		6	6
SLAG-01	29-Nov-18	16:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	726	mg/kg		0.8	5
SLAG-01	29-Nov-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	3180	mg/kg		7	7
SS-01	29-Nov-18	17:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	20500	mg/kg	D	20	20
SS-01	29-Nov-18	17:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	48	mg/kg		0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	305	mg/kg		0.3	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.6	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	15	mg/kg		2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.4	mg/kg		0.2	0.2
SS-01	29-Nov-18	17:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	98	mg/kg		1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	237	mg/kg		6	6
SS-01	29-Nov-18	17:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	37500	mg/kg	D	100	100
SS-01	29-Nov-18	17:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	268	mg/kg		0.7	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2000	mg/kg		2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.16	mg/kg		0.0032	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	17	mg/kg		0.3	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	47	mg/kg		0.8	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.7	5

SS-01	29-Nov-18	17:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.7	mg/kg	J	0.3	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	106	mg/kg		0.7	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	386	mg/kg		6	6
SS-05A	29-Nov-18	15:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	23300	mg/kg	D	20	20
SS-05A	29-Nov-18	15:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	2	mg/kg	J	2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	317	mg/kg		0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	326	mg/kg		0.3	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	0.8	mg/kg	J	0.7	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	21	mg/kg		0.2	0.2
SS-05A	29-Nov-18	15:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	66	mg/kg		1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	17	mg/kg		2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	2650	mg/kg		6	6
SS-05A	29-Nov-18	15:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	46100	mg/kg	D	100	100
SS-05A	29-Nov-18	15:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	668	mg/kg		0.8	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2220	mg/kg		2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.68	mg/kg		0.016	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	16	mg/kg		0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	30	mg/kg		0.9	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	1.8	mg/kg	J	0.8	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	9	mg/kg		0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	11	mg/kg		0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	98	mg/kg		0.8	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	4360	mg/kg		7	7
SS-15G	29-Nov-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	30000	mg/kg	D	30	30
SS-15G	29-Nov-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<3	mg/kg		3	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	51	mg/kg		0.7	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	257	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	1	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	16	mg/kg		3	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	1.8	mg/kg		0.3	0.3
SS-15G	29-Nov-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	57	mg/kg		2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		3	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	129	mg/kg		10	10
SS-15G	29-Nov-18	14:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	25500	mg/kg	D	200	200
SS-15G	29-Nov-18	14:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	99	mg/kg		1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	732	mg/kg		3	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.21	mg/kg		0.0054	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	1.6	mg/kg	J	0.6	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	35	mg/kg		1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	4	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	1.1	mg/kg	J	0.6	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	5	mg/kg		0.3	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	59	mg/kg		1	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	187	mg/kg		10	10
SS-06G	29-Nov-18	14:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	21600	mg/kg	D	30	30
SS-06G	29-Nov-18	14:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	180	mg/kg		0.6	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	805	mg/kg		0.4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	21	mg/kg		3	5

SS-06G	29-Nov-18	14:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	13.5	mg/kg		0.3	0.3
SS-06G	29-Nov-18	14:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	132	mg/kg		2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	34	mg/kg		3	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	1170	mg/kg		8	8
SS-06G	29-Nov-18	14:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	47400	mg/kg	D	200	200
SS-06G	29-Nov-18	14:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	732	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	18900	mg/kg		2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.9	mg/kg		0.029	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	20	mg/kg		0.5	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	72	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	6	mg/kg		0.5	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	12	mg/kg		0.3	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	108	mg/kg		1	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2850	mg/kg		9	9
SS-07	29-Nov-18	13:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	20300	mg/kg	D	30	30
SS-07	29-Nov-18	13:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<3	mg/kg		3	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	183	mg/kg		0.6	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	554	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	17	mg/kg		3	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	9.5	mg/kg		0.3	0.3
SS-07	29-Nov-18	13:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	85	mg/kg		2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	30	mg/kg		3	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	948	mg/kg		9	9
SS-07	29-Nov-18	13:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	48500	mg/kg	D	200	200
SS-07	29-Nov-18	13:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	483	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	12400	mg/kg		3	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.64	mg/kg		0.0059	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	23	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	52	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	7	mg/kg		0.6	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	10	mg/kg		0.3	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	103	mg/kg		1	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2940	mg/kg		10	10
SS-07	29-Nov-18	13:45	QC-FD	Aluminum	SED_SIEVE_<0.065mm	19300	mg/kg	D	30	30
SS-07	29-Nov-18	13:45	QC-FD	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-07	29-Nov-18	13:45	QC-FD	Arsenic	SED_SIEVE_<0.065mm	170	mg/kg		0.6	5
SS-07	29-Nov-18	13:45	QC-FD	Barium	SED_SIEVE_<0.065mm	474	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	QC-FD	Beryllium	SED_SIEVE_<0.065mm	<0.9	mg/kg		0.9	5
SS-07	29-Nov-18	13:45	QC-FD	Boron	SED_SIEVE_<0.065mm	13	mg/kg		3	5
SS-07	29-Nov-18	13:45	QC-FD	Cadmium	SED_SIEVE_<0.065mm	8.3	mg/kg		0.3	0.3
SS-07	29-Nov-18	13:45	QC-FD	Chromium	SED_SIEVE_<0.065mm	73	mg/kg		2	5
SS-07	29-Nov-18	13:45	QC-FD	Cobalt	SED_SIEVE_<0.065mm	23	mg/kg		3	5
SS-07	29-Nov-18	13:45	QC-FD	Copper	SED_SIEVE_<0.065mm	943	mg/kg		8	8
SS-07	29-Nov-18	13:45	QC-FD	Iron	SED_SIEVE_<0.065mm	48000	mg/kg	D	200	200
SS-07	29-Nov-18	13:45	QC-FD	Lead	SED_SIEVE_<0.065mm	445	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Manganese	SED_SIEVE_<0.065mm	9900	mg/kg		2	5
SS-07	29-Nov-18	13:45	QC-FD	Mercury	SED_SIEVE_<0.065mm	0.7	mg/kg		0.0053	0.1
SS-07	29-Nov-18	13:45	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	19	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	QC-FD	Nickel	SED_SIEVE_<0.065mm	43	mg/kg		1	5

SS-07	29-Nov-18	13:45	QC-FD	Selenium	SED_SIEVE_<0.065mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Silver	SED_SIEVE_<0.065mm	6	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	9	mg/kg		0.3	5
SS-07	29-Nov-18	13:45	QC-FD	Vanadium	SED_SIEVE_<0.065mm	91	mg/kg		1	1
SS-07	29-Nov-18	13:45	QC-FD	Zinc	SED_SIEVE_<0.065mm	2570	mg/kg		9	9
SS-08	29-Nov-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	20100	mg/kg	D	20	20
SS-08	29-Nov-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	137	mg/kg		0.5	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	473	mg/kg		0.4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	13.8	mg/kg		0.2	0.2
SS-08	29-Nov-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	80	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	21	mg/kg		2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	860	mg/kg		7	7
SS-08	29-Nov-18	12:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	39400	mg/kg	D	100	100
SS-08	29-Nov-18	12:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	674	mg/kg		0.9	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	7490	mg/kg		2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	4	mg/kg		0.11	0.32
SS-08	29-Nov-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	13	mg/kg		0.4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	48	mg/kg		0.9	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	7	mg/kg		0.4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	7	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	76	mg/kg		0.9	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	2380	mg/kg		7	7
SS-10A	29-Nov-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	34800	mg/kg	D	30	30
SS-10A	29-Nov-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	57	mg/kg		0.5	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	482	mg/kg		0.4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	10.2	mg/kg		0.2	0.2
SS-10A	29-Nov-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	38	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	685	mg/kg		7	7
SS-10A	29-Nov-18	11:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	36400	mg/kg	D	100	100
SS-10A	29-Nov-18	11:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	184	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1320	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.65	mg/kg		0.018	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	9	mg/kg		0.4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	19	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.9	mg/kg		0.9	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	8	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	70	mg/kg		1	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1710	mg/kg		8	8
SS-11C	29-Nov-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	35700	mg/kg	D	20	20
SS-11C	29-Nov-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	25	mg/kg		0.4	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	366	mg/kg		0.3	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.6	mg/kg		0.6	5

SS-11C	29-Nov-18	9:45	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5.2	mg/kg		0.2	0.2
SS-11C	29-Nov-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	31	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	326	mg/kg		6	6
SS-11C	29-Nov-18	9:45	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	27400	mg/kg	D	100	100
SS-11C	29-Nov-18	9:45	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	109	mg/kg		0.8	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1980	mg/kg		2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.23	mg/kg		0.0032	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	19	mg/kg		0.8	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	50	mg/kg		0.8	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	750	mg/kg		6	6
SS-11D	29-Nov-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	33000	mg/kg	D	20	20
SS-11D	29-Nov-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	54	mg/kg		0.4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	560	mg/kg		0.3	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.6	mg/kg		0.6	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.5	mg/kg		0.2	0.2
SS-11D	29-Nov-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	65	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	235	mg/kg		6	6
SS-11D	29-Nov-18	9:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	28500	mg/kg	D	100	100
SS-11D	29-Nov-18	9:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	199	mg/kg		0.7	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2200	mg/kg		2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.49	mg/kg		0.015	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	39	mg/kg		0.8	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	5	mg/kg		0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	55	mg/kg		0.8	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	656	mg/kg		6	6
SS-13	28-Nov-18	17:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	34500	mg/kg	D	30	30
SS-13	28-Nov-18	17:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	40	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	458	mg/kg		0.4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	16	mg/kg		3	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	7.4	mg/kg		0.2	0.2
SS-13	28-Nov-18	17:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	49	mg/kg		2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		3	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	450	mg/kg		7	7
SS-13	28-Nov-18	17:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	34100	mg/kg	D	100	100
SS-13	28-Nov-18	17:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	146	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1890	mg/kg		2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.35	mg/kg		0.0038	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5

SS-13	28-Nov-18	17:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	29	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.9	mg/kg		0.9	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.5	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	5	mg/kg		0.3	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	76	mg/kg		1	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1400	mg/kg		8	8
SS-14	28-Nov-18	16:00	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	36100	mg/kg	D	20	20
SS-14	28-Nov-18	16:00	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	36	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	496	mg/kg		0.3	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.6	mg/kg		0.6	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	5	mg/kg		0.2	0.2
SS-14	28-Nov-18	16:00	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	57	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	17	mg/kg		2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	332	mg/kg		6	6
SS-14	28-Nov-18	16:00	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	36200	mg/kg	D	100	100
SS-14	28-Nov-18	16:00	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	223	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	3500	mg/kg		2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.26	mg/kg		0.0035	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	33	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	75	mg/kg		0.8	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1090	mg/kg		6	6
SS-14	28-Nov-18	16:00	QC-FD	Aluminum	SED_SIEVE_<0.065mm	36600	mg/kg	D	20	20
SS-14	28-Nov-18	16:00	QC-FD	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-14	28-Nov-18	16:00	QC-FD	Arsenic	SED_SIEVE_<0.065mm	35	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	QC-FD	Barium	SED_SIEVE_<0.065mm	496	mg/kg		0.3	5
SS-14	28-Nov-18	16:00	QC-FD	Beryllium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-14	28-Nov-18	16:00	QC-FD	Boron	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-14	28-Nov-18	16:00	QC-FD	Cadmium	SED_SIEVE_<0.065mm	5.1	mg/kg		0.2	0.2
SS-14	28-Nov-18	16:00	QC-FD	Chromium	SED_SIEVE_<0.065mm	61	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Cobalt	SED_SIEVE_<0.065mm	16	mg/kg		2	5
SS-14	28-Nov-18	16:00	QC-FD	Copper	SED_SIEVE_<0.065mm	366	mg/kg		6	6
SS-14	28-Nov-18	16:00	QC-FD	Iron	SED_SIEVE_<0.065mm	35200	mg/kg	D	100	100
SS-14	28-Nov-18	16:00	QC-FD	Lead	SED_SIEVE_<0.065mm	191	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	QC-FD	Manganese	SED_SIEVE_<0.065mm	3140	mg/kg		2	5
SS-14	28-Nov-18	16:00	QC-FD	Mercury	SED_SIEVE_<0.065mm	0.24	mg/kg		0.0032	0.1
SS-14	28-Nov-18	16:00	QC-FD	Molybdenum	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	QC-FD	Nickel	SED_SIEVE_<0.065mm	37	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	QC-FD	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	QC-FD	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	QC-FD	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Vanadium	SED_SIEVE_<0.065mm	70	mg/kg		0.8	1
SS-14	28-Nov-18	16:00	QC-FD	Zinc	SED_SIEVE_<0.065mm	1160	mg/kg		7	7
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	35300	mg/kg	D	20	20
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	31	mg/kg		0.4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	478	mg/kg		0.3	5

SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.6	mg/kg		0.6	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	10	mg/kg		2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.2	mg/kg		0.2	0.2
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	33	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	265	mg/kg		5	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	31900	mg/kg	D	100	100
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	101	mg/kg		0.7	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1760	mg/kg		2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.26	mg/kg		0.0028	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	21	mg/kg		0.7	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	55	mg/kg		0.7	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	792	mg/kg		6	6
SS-15B	28-Nov-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	37300	mg/kg	D	20	20
SS-15B	28-Nov-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	76	mg/kg		0.5	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	723	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	13	mg/kg		2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	6	mg/kg		0.2	0.2
SS-15B	28-Nov-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	57	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	12	mg/kg		2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	445	mg/kg		7	7
SS-15B	28-Nov-18	13:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	35700	mg/kg	D	100	100
SS-15B	28-Nov-18	13:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	255	mg/kg		0.9	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2630	mg/kg		2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.45	mg/kg		0.0034	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	33	mg/kg		0.9	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.9	mg/kg		0.9	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	57	mg/kg		0.9	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1300	mg/kg		7	7
SS-16B	28-Nov-18	11:30	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	35900	mg/kg	D	20	20
SS-16B	28-Nov-18	11:30	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	45	mg/kg		0.4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	520	mg/kg		0.3	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.6	mg/kg		0.6	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.8	mg/kg		0.2	0.2
SS-16B	28-Nov-18	11:30	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	47	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	324	mg/kg		6	6
SS-16B	28-Nov-18	11:30	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	39300	mg/kg	D	100	100
SS-16B	28-Nov-18	11:30	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	141	mg/kg		0.7	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	2450	mg/kg		2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.49	mg/kg		0.015	0.1

SS-16B	28-Nov-18	11:30	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	26	mg/kg		0.8	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	79	mg/kg		0.8	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	838	mg/kg		6	6
SS-17D	28-Nov-18	10:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	38700	mg/kg	D	20	20
SS-17D	28-Nov-18	10:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	33	mg/kg		0.4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	351	mg/kg		0.3	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.5	mg/kg		0.5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	11	mg/kg		2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	3.4	mg/kg		0.2	0.2
SS-17D	28-Nov-18	10:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	49	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	15	mg/kg		2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	270	mg/kg		5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	38200	mg/kg	D	100	100
SS-17D	28-Nov-18	10:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	105	mg/kg		0.7	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1550	mg/kg		2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	0.52	mg/kg		0.013	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	29	mg/kg		0.7	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.6	mg/kg		0.6	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.3	mg/kg		0.3	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	87	mg/kg		0.7	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	722	mg/kg		6	6
SS-19	28-Nov-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_<0.065mm	25600	mg/kg	D	20	20
SS-19	28-Nov-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_<0.065mm	<2	mg/kg		2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_<0.065mm	68	mg/kg		0.4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Barium	SED_SIEVE_<0.065mm	298	mg/kg		0.3	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_<0.065mm	<0.7	mg/kg		0.7	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Boron	SED_SIEVE_<0.065mm	9	mg/kg		2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_<0.065mm	10.2	mg/kg		0.2	0.2
SS-19	28-Nov-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_<0.065mm	60	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_<0.065mm	14	mg/kg		2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Copper	SED_SIEVE_<0.065mm	644	mg/kg		6	6
SS-19	28-Nov-18	9:15	S-ROUTINE	Iron	SED_SIEVE_<0.065mm	31100	mg/kg	D	100	100
SS-19	28-Nov-18	9:15	S-ROUTINE	Lead	SED_SIEVE_<0.065mm	260	mg/kg		0.8	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_<0.065mm	1560	mg/kg		2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_<0.065mm	1	mg/kg		0.017	0.1
SS-19	28-Nov-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_<0.065mm	35	mg/kg		0.9	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_<0.065mm	<0.8	mg/kg		0.8	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Silver	SED_SIEVE_<0.065mm	<0.4	mg/kg		0.4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_<0.065mm	<0.2	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_<0.065mm	65	mg/kg		0.8	1
SS-19	28-Nov-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_<0.065mm	1910	mg/kg		7	7

Table D-2. Mid fraction instream sediment sample results in the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	22-Mar-18	16:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3930	mg/kg		6	6
SS-01	22-Mar-18	16:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.14	mg/kg	J	0.08	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.1	mg/kg	J	0.6	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	50	mg/kg		0.4	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.15	mg/kg	J	0.06	0.2
SS-01	22-Mar-18	16:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.6	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	2.4	mg/kg	J	0.07	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	28	mg/kg		2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	11800	mg/kg	D	50	50
SS-01	22-Mar-18	16:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	9	mg/kg		0.08	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	157	mg/kg		0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.3	mg/kg	J	0.1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.8	mg/kg	J	0.09	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	31	mg/kg		0.2	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	106	mg/kg		0.6	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.008	mg/kg	J	0.00012	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3630	mg/kg		5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	2.1	mg/kg	J	0.07	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	82	mg/kg		0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	60	mg/kg		0.3	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	2.1	mg/kg		0.06	0.2
SS-05A	22-Mar-18	15:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	28	mg/kg		0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	16	mg/kg		0.06	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	744	mg/kg		2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	90400	mg/kg	D	200	200
SS-05A	22-Mar-18	15:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	149	mg/kg		0.07	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	972	mg/kg		0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	2.1	mg/kg	J	0.1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	12	mg/kg		0.1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	2	mg/kg	J	0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	3.1	mg/kg	J	0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	4.9	mg/kg	J	0.08	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	109	mg/kg		0.2	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	1080	mg/kg		0.6	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.12	mg/kg		0.00012	0.1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3840	mg/kg		6	6
SS-06G	22-Mar-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.76	mg/kg	J	0.08	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	22	mg/kg		0.6	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	110	mg/kg		0.4	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	22-Mar-18	14:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.9	mg/kg		0.06	0.2
SS-06G	22-Mar-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.6	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg	J	0.07	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	108	mg/kg		2	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10200	mg/kg	D	50	50
SS-06G	22-Mar-18	14:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	67	mg/kg		0.09	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1940	mg/kg		0.5	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.1	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.3	mg/kg	J	0.1	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.5	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.3	mg/kg	J	0.09	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	18	mg/kg		0.2	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	419	mg/kg		0.6	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.08	mg/kg	J	0.00013	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4490	mg/kg		6	6
SS-07	22-Mar-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.08	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	40	mg/kg		0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	97	mg/kg		0.4	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.2	mg/kg	J	0.2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.1	mg/kg		0.06	0.2
SS-07	22-Mar-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	9	mg/kg		0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4.8	mg/kg	J	0.07	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	192	mg/kg		2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	17300	mg/kg	D	50	50
SS-07	22-Mar-18	14:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	75	mg/kg		0.08	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1170	mg/kg		0.5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.1	mg/kg	J	0.1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.3	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.9	mg/kg	J	0.5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.5	mg/kg	J	0.09	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	28	mg/kg		0.2	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	613	mg/kg		0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.17	mg/kg		0.00013	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	9890	mg/kg		7	7
SS-08	22-Mar-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	1	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	29	mg/kg		0.8	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	170	mg/kg		0.5	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.3	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	5	mg/kg	J	2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	4.9	mg/kg		0.08	0.2
SS-08	22-Mar-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.8	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	6	mg/kg		0.09	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	308	mg/kg		3	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	19300	mg/kg	D	60	60
SS-08	22-Mar-18	12:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	78	mg/kg		0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	22-Mar-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1170	mg/kg		0.7	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.9	mg/kg	J	0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.3	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	3	mg/kg	J	0.7	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.9	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	35	mg/kg		0.3	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	975	mg/kg		0.8	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.4	mg/kg		0.00016	0.1
SS-08	22-Mar-18	12:45	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	10200	mg/kg		7	7
SS-08	22-Mar-18	12:45	QC-FD	Antimony	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	21	mg/kg		0.7	5
SS-08	22-Mar-18	12:45	QC-FD	Barium	SED_SIEVE_0.065-1mm	178	mg/kg		0.5	5
SS-08	22-Mar-18	12:45	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.3	5
SS-08	22-Mar-18	12:45	QC-FD	Boron	SED_SIEVE_0.065-1mm	5	mg/kg		2	5
SS-08	22-Mar-18	12:45	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	4.9	mg/kg		0.08	0.2
SS-08	22-Mar-18	12:45	QC-FD	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.7	5
SS-08	22-Mar-18	12:45	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	7	mg/kg		0.09	5
SS-08	22-Mar-18	12:45	QC-FD	Copper	SED_SIEVE_0.065-1mm	289	mg/kg		3	5
SS-08	22-Mar-18	12:45	QC-FD	Iron	SED_SIEVE_0.065-1mm	18900	mg/kg	D	60	60
SS-08	22-Mar-18	12:45	QC-FD	Lead	SED_SIEVE_0.065-1mm	86	mg/kg		0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Manganese	SED_SIEVE_0.065-1mm	1130	mg/kg		0.6	5
SS-08	22-Mar-18	12:45	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	1.3	mg/kg	J	0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Selenium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.3	5
SS-08	22-Mar-18	12:45	QC-FD	Silver	SED_SIEVE_0.065-1mm	3	mg/kg	J	0.7	5
SS-08	22-Mar-18	12:45	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	4.3	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	33	mg/kg		0.3	1
SS-08	22-Mar-18	12:45	QC-FD	Zinc	SED_SIEVE_0.065-1mm	923	mg/kg		0.8	5
SS-08	22-Mar-18	12:45	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.54	mg/kg		0.00017	0.1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	13100	mg/kg		6	6
SS-10A	22-Mar-18	11:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.55	mg/kg	J	0.08	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	16	mg/kg		0.6	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	183	mg/kg		0.4	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	3.7	mg/kg		0.06	0.2
SS-10A	22-Mar-18	11:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.6	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	6	mg/kg		0.07	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	190	mg/kg		2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	23400	mg/kg	D	50	50
SS-10A	22-Mar-18	11:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	43	mg/kg		0.09	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	860	mg/kg		0.5	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.9	mg/kg	J	0.1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.5	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.5	mg/kg	J	0.09	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	51	mg/kg		0.2	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	22-Mar-18	11:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	546	mg/kg		0.7	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.25	mg/kg		0.00015	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3930	mg/kg		6	6
SS-11C	22-Mar-18	9:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.49	mg/kg	J	0.08	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.3	mg/kg	J	0.6	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	98	mg/kg		0.4	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.6	mg/kg		0.06	0.2
SS-11C	22-Mar-18	9:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	6	mg/kg		0.6	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	2.7	mg/kg	J	0.07	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	42	mg/kg		2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	8620	mg/kg	D	50	50
SS-11C	22-Mar-18	9:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	10	mg/kg		0.08	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	904	mg/kg		0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3	mg/kg	J	0.1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.4	mg/kg	J	0.08	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	22	mg/kg		0.2	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	115	mg/kg		0.6	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.03	mg/kg	J	0.00013	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5770	mg/kg		6	6
SS-11D	22-Mar-18	8:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.26	mg/kg	J	0.08	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.2	mg/kg	J	0.6	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	130	mg/kg		0.4	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.7	mg/kg		0.06	0.2
SS-11D	22-Mar-18	8:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	8	mg/kg		0.6	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	2.8	mg/kg	J	0.07	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	33	mg/kg		2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	7690	mg/kg	D	50	50
SS-11D	22-Mar-18	8:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	10	mg/kg		0.08	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	360	mg/kg		0.5	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.7	mg/kg	J	0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.84	mg/kg	J	0.09	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	15	mg/kg		0.2	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	114	mg/kg		0.6	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.03	mg/kg	J	0.00013	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	8760	mg/kg		7	7
SS-13	21-Mar-18	17:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	8	mg/kg		0.7	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	198	mg/kg		0.5	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	21-Mar-18	17:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	3	mg/kg	J	2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	2.7	mg/kg		0.07	0.2
SS-13	21-Mar-18	17:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.7	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4.6	mg/kg	J	0.08	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	95	mg/kg		3	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	13700	mg/kg	DJ	60	60
SS-13	21-Mar-18	17:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	21	mg/kg		0.1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	787	mg/kg	J	0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.6	mg/kg		0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	29	mg/kg		0.2	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	378	mg/kg		0.8	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.12	mg/kg		0.00016	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	8140	mg/kg		7	7
SS-14	21-Mar-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	10	mg/kg		0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	213	mg/kg		0.5	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	4	mg/kg	J	2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.9	mg/kg		0.08	0.2
SS-14	21-Mar-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4.5	mg/kg	J	0.08	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	97	mg/kg		3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	13100	mg/kg	DJ	60	60
SS-14	21-Mar-18	16:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	18	mg/kg		0.1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1050	mg/kg	J	0.6	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.7	mg/kg		0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.3	mg/kg	J	0.1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	25	mg/kg		0.2	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	342	mg/kg		0.8	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.1	mg/kg	J	0.00016	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4620	mg/kg		5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.95	mg/kg	J	0.07	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	27	mg/kg	J	0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	96	mg/kg		0.3	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.4	mg/kg		0.06	0.2
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3.9	mg/kg	J	0.06	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	177	mg/kg		2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	24600	mg/kg	DJ	40	40
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	53	mg/kg	J	0.08	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	512	mg/kg	J	0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.2	mg/kg	J	0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.6	mg/kg	J	0.08	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	66	mg/kg		0.2	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	393	mg/kg		0.6	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.13	mg/kg		0.00013	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	2970	mg/kg		5	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6330	mg/kg		6	6
SS-15B	21-Mar-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.46	mg/kg	J	0.08	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	30	mg/kg	J	0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	105	mg/kg		0.4	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.5	mg/kg		0.06	0.2
SS-15B	21-Mar-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3.4	mg/kg	J	0.07	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	120	mg/kg		2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	12200	mg/kg	DJ	50	50
SS-15B	21-Mar-18	12:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	43	mg/kg	J	0.08	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	521	mg/kg	J	0.5	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.5	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.3	mg/kg	J	0.08	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	23	mg/kg		0.2	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	453	mg/kg		0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.14	mg/kg		0.00013	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	8000	mg/kg		6	6
SS-15G	22-Mar-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.1	mg/kg	J	0.08	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	15	mg/kg		0.6	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	112	mg/kg		0.4	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.08	mg/kg	J	0.06	0.2
SS-15G	22-Mar-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.6	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3.6	mg/kg	J	0.07	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	17	mg/kg		2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	11400	mg/kg	D	50	50
SS-15G	22-Mar-18	13:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	5	mg/kg		0.09	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	127	mg/kg		0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.09	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	22-Mar-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	25	mg/kg		0.2	1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	35	mg/kg		0.6	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.01	mg/kg	J	0.00013	0.1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6720	mg/kg		6	6
SS-16B	21-Mar-18	10:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.42	mg/kg	J	0.09	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	16	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	172	mg/kg		0.4	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.9	mg/kg		0.07	0.2
SS-16B	21-Mar-18	10:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	18	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg		0.07	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	96	mg/kg		2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	29600	mg/kg	DJ	50	50
SS-16B	21-Mar-18	10:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	37	mg/kg	J	0.09	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	626	mg/kg	J	0.5	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.6	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.5	mg/kg	J	0.09	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	77	mg/kg		0.2	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	350	mg/kg		0.7	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.12	mg/kg		0.00014	0.1
SS-16B	21-Mar-18	10:45	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	5730	mg/kg		6	6
SS-16B	21-Mar-18	10:45	QC-FD	Antimony	SED_SIEVE_0.065-1mm	0.78	mg/kg	J	0.08	5
SS-16B	21-Mar-18	10:45	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	27	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Barium	SED_SIEVE_0.065-1mm	119	mg/kg		0.4	5
SS-16B	21-Mar-18	10:45	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-16B	21-Mar-18	10:45	QC-FD	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-16B	21-Mar-18	10:45	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	1.2	mg/kg		0.06	0.2
SS-16B	21-Mar-18	10:45	QC-FD	Chromium	SED_SIEVE_0.065-1mm	34	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	7	mg/kg		0.07	5
SS-16B	21-Mar-18	10:45	QC-FD	Copper	SED_SIEVE_0.065-1mm	94	mg/kg		2	5
SS-16B	21-Mar-18	10:45	QC-FD	Iron	SED_SIEVE_0.065-1mm	60900	mg/kg	D	50	50
SS-16B	21-Mar-18	10:45	QC-FD	Lead	SED_SIEVE_0.065-1mm	102	mg/kg		0.08	5
SS-16B	21-Mar-18	10:45	QC-FD	Manganese	SED_SIEVE_0.065-1mm	980	mg/kg		0.5	5
SS-16B	21-Mar-18	10:45	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Selenium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.3	5
SS-16B	21-Mar-18	10:45	QC-FD	Silver	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-16B	21-Mar-18	10:45	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	8	mg/kg		0.08	5
SS-16B	21-Mar-18	10:45	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	184	mg/kg		0.2	1
SS-16B	21-Mar-18	10:45	QC-FD	Zinc	SED_SIEVE_0.065-1mm	329	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.11	mg/kg		0.00013	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6710	mg/kg		6	6
SS-17D	21-Mar-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.71	mg/kg	J	0.09	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	26	mg/kg	J	0.6	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	145	mg/kg		0.4	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	21-Mar-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.1	mg/kg		0.07	0.2
SS-17D	21-Mar-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.6	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4.3	mg/kg	J	0.07	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	130	mg/kg		2	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	13000	mg/kg	DJ	50	50
SS-17D	21-Mar-18	9:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	43	mg/kg	J	0.09	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	853	mg/kg	J	0.5	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg		0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.6	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.3	mg/kg	J	0.09	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	27	mg/kg		0.2	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	348	mg/kg		0.7	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.13	mg/kg		0.00013	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4780	mg/kg		5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	0.46	mg/kg	J	0.08	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	21	mg/kg		0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	97	mg/kg		0.4	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.2	mg/kg	J	0.2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1	mg/kg		0.06	0.2
SS-19	21-Mar-18	8:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	9	mg/kg		0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3.1	mg/kg	J	0.06	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	116	mg/kg		2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	11600	mg/kg	DJ	40	40
SS-19	21-Mar-18	8:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	44	mg/kg	J	0.08	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	315	mg/kg	J	0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	3	mg/kg	J	0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg	J	0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.2	mg/kg	J	0.08	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	25	mg/kg		0.2	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	338	mg/kg		0.6	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.1	mg/kg	J	0.00012	0.1
SS-06G	7-Jun-18	14:45	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	4070	mg/kg	D	10	10
SS-06G	7-Jun-18	14:45	QC-FD	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	28	mg/kg		0.2	5
SS-06G	7-Jun-18	14:45	QC-FD	Barium	SED_SIEVE_0.065-1mm	89	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	QC-FD	Boron	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	1.6	mg/kg		0.1	0.2
SS-06G	7-Jun-18	14:45	QC-FD	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.8	5
SS-06G	7-Jun-18	14:45	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	QC-FD	Copper	SED_SIEVE_0.065-1mm	117	mg/kg		3	5
SS-06G	7-Jun-18	14:45	QC-FD	Iron	SED_SIEVE_0.065-1mm	18100	mg/kg	D	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	7-Jun-18	14:45	QC-FD	Lead	SED_SIEVE_0.065-1mm	89	mg/kg		0.5	5
SS-06G	7-Jun-18	14:45	QC-FD	Manganese	SED_SIEVE_0.065-1mm	1350	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.1	mg/kg	J	0.0041	0.1
SS-06G	7-Jun-18	14:45	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	QC-FD	Nickel	SED_SIEVE_0.065-1mm	3.9	mg/kg	J	0.5	5
SS-06G	7-Jun-18	14:45	QC-FD	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	QC-FD	Silver	SED_SIEVE_0.065-1mm	1.6	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	1.4	mg/kg	J	0.1	5
SS-06G	7-Jun-18	14:45	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	45	mg/kg		0.5	1
SS-06G	7-Jun-18	14:45	QC-FD	Zinc	SED_SIEVE_0.065-1mm	492	mg/kg		4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	8930	mg/kg	D	10	10
SS-15A-2	6-Jun-18	13:30	QC-FD	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	51	mg/kg		0.2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Barium	SED_SIEVE_0.065-1mm	210	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	1.5	mg/kg		0.1	0.2
SS-15A-2	6-Jun-18	13:30	QC-FD	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Copper	SED_SIEVE_0.065-1mm	220	mg/kg		3	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Iron	SED_SIEVE_0.065-1mm	19600	mg/kg	D	70	70
SS-15A-2	6-Jun-18	13:30	QC-FD	Lead	SED_SIEVE_0.065-1mm	71	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Manganese	SED_SIEVE_0.065-1mm	412	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.25	mg/kg		0.0043	0.1
SS-15A-2	6-Jun-18	13:30	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Silver	SED_SIEVE_0.065-1mm	1.4	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	2.1	mg/kg	J	0.1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	44	mg/kg		0.5	1
SS-15A-2	6-Jun-18	13:30	QC-FD	Zinc	SED_SIEVE_0.065-1mm	424	mg/kg		4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5320	mg/kg	D	10	10
SS-01	7-Jun-18	17:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.4	mg/kg	J	0.3	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	63	mg/kg		1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.2	mg/kg		0.1	0.2
SS-01	7-Jun-18	17:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	22	mg/kg		0.8	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	35	mg/kg	J	4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	20900	mg/kg	D	70	70
SS-01	7-Jun-18	17:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	26	mg/kg		0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	189	mg/kg		1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.04	mg/kg	J	0.0043	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.9	mg/kg	J	0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	7-Jun-18	17:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	4.6	mg/kg	J	0.1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	69	mg/kg		0.5	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	92	mg/kg		4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4380	mg/kg	D	10	10
SS-05A	7-Jun-18	16:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	61	mg/kg		0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	63	mg/kg		1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	3.7	mg/kg	J	0.1	0.2
SS-05A	7-Jun-18	16:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	29	mg/kg		0.7	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	15	mg/kg		1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	595	mg/kg	J	3	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	60400	mg/kg	D	300	300
SS-05A	7-Jun-18	16:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	129	mg/kg		0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	928	mg/kg		1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.1	mg/kg	J	0.0041	0.1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	2.4	mg/kg	J	0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	12	mg/kg		0.5	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	1.6	mg/kg	J	0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	3.1	mg/kg	J	0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	3.8	mg/kg	J	0.1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	102	mg/kg		0.4	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	1490	mg/kg		4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4240	mg/kg	D	10	10
SS-06G	7-Jun-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	29	mg/kg		0.2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	97	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1	mg/kg		0.1	0.2
SS-06G	7-Jun-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.7	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	238	mg/kg	J	3	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	17900	mg/kg	D	70	70
SS-06G	7-Jun-18	14:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	111	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1560	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.24	mg/kg		0.0039	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.8	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.4	mg/kg	J	0.5	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	2.2	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	43	mg/kg		0.5	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	503	mg/kg		4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3820	mg/kg	D	10	10
SS-07	7-Jun-18	14:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	35	mg/kg		0.2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	80	mg/kg		1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	7-Jun-18	14:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.1	0.2
SS-07	7-Jun-18	14:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		0.7	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	7	mg/kg		1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	168	mg/kg	J	3	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	24100	mg/kg	D	60	60
SS-07	7-Jun-18	14:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	64	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1250	mg/kg		1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.13	mg/kg		0.004	0.1
SS-07	7-Jun-18	14:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.6	mg/kg	J	0.2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.4	mg/kg	J	0.2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.6	mg/kg	J	0.1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	52	mg/kg		0.4	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	542	mg/kg		4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6540	mg/kg	D	10	10
SS-08	7-Jun-18	12:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	12	mg/kg		0.2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	97	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	0.2
SS-08	7-Jun-18	12:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	7	mg/kg		0.7	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	105	mg/kg	J	3	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10900	mg/kg	D	70	70
SS-08	7-Jun-18	12:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	49	mg/kg		0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1030	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.21	mg/kg		0.004	0.1
SS-08	7-Jun-18	12:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.8	mg/kg	J	0.5	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	22	mg/kg		0.5	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	332	mg/kg		4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	15000	mg/kg	D	10	10
SS-10A	7-Jun-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	20	mg/kg		0.3	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	182	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	2.5	mg/kg		0.1	0.2
SS-10A	7-Jun-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	16	mg/kg		0.8	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	6	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	145	mg/kg	J	2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	30600	mg/kg	D	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	7-Jun-18	11:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	55	mg/kg		0.5	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1180	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.43	mg/kg		0.0045	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.8	mg/kg	J	0.5	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.2	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	6	mg/kg		0.1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	74	mg/kg		0.5	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	411	mg/kg		4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4380	mg/kg	D	10	10
SS-11C	7-Jun-18	10:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.8	mg/kg	J	0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	83	mg/kg		1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.6	mg/kg		0.1	0.2
SS-11C	7-Jun-18	10:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	9	mg/kg		0.7	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	25	mg/kg	J	3	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10800	mg/kg	D	70	70
SS-11C	7-Jun-18	10:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	12	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	447	mg/kg		1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.02	mg/kg	J	0.0041	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.8	mg/kg	J	0.5	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	30	mg/kg		0.5	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	75	mg/kg		4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4960	mg/kg	D	10	10
SS-11D	7-Jun-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.1	mg/kg	J	0.2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	110	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.6	mg/kg		0.1	0.2
SS-11D	7-Jun-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.8	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	22	mg/kg		3	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	12700	mg/kg	D	70	70
SS-11D	7-Jun-18	9:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	17	mg/kg		0.5	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	286	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.02	mg/kg	J	0.0042	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg	J	0.5	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	7-Jun-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	33	mg/kg		0.5	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	128	mg/kg		4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5130	mg/kg	D	10	10
SS-13	6-Jun-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	5	mg/kg		0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	131	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.5	mg/kg		0.1	0.2
SS-13	6-Jun-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.7	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	19	mg/kg		3	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	8270	mg/kg	D	70	70
SS-13	6-Jun-18	16:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	12	mg/kg		0.5	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	604	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.05	mg/kg	J	0.0042	0.1
SS-13	6-Jun-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg		0.5	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	18	mg/kg		0.5	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	112	mg/kg		4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6390	mg/kg	D	10	10
SS-14	6-Jun-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	9	mg/kg		0.2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	159	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.4	mg/kg		0.1	0.2
SS-14	6-Jun-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.8	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	65	mg/kg		4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	12400	mg/kg	D	70	70
SS-14	6-Jun-18	14:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	21	mg/kg		0.5	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	447	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.06	mg/kg	J	0.0045	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	32	mg/kg		0.5	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	282	mg/kg		4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	8210	mg/kg	D	10	10
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	45	mg/kg		0.2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	174	mg/kg		1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.9	mg/kg		0.1	0.2
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	206	mg/kg		3	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	14800	mg/kg	D	70	70
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	43	mg/kg	J	0.5	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	418	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.22	mg/kg		0.0039	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.9	mg/kg	J	0.5	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.8	mg/kg	J	0.1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	31	mg/kg		0.5	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	505	mg/kg		4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6460	mg/kg	D	10	10
SS-15B	6-Jun-18	12:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	60	mg/kg		0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	98	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.2	mg/kg		0.1	0.2
SS-15B	6-Jun-18	12:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	17	mg/kg		0.8	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	179	mg/kg		3	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	25700	mg/kg	D	70	70
SS-15B	6-Jun-18	12:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	48	mg/kg	J	0.5	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	218	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.2	mg/kg		0.0041	0.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.5	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1	mg/kg	J	0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.8	mg/kg	J	0.1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	73	mg/kg		0.5	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	354	mg/kg		4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	11200	mg/kg	D	10	10
SS-15G	6-Jun-18	13:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	28	mg/kg		0.3	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	190	mg/kg		1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	0.2
SS-15G	6-Jun-18	13:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	17	mg/kg		0.8	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	6	mg/kg		1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	21	mg/kg		4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	16300	mg/kg	D	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	6-Jun-18	13:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	8	mg/kg		0.5	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	177	mg/kg		1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.03	mg/kg	J	0.0044	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	10	mg/kg		0.5	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	42	mg/kg		0.5	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	42	mg/kg		4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	7670	mg/kg	D	10	10
SS-16B	6-Jun-18	11:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	17	mg/kg		0.2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	161	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.8	mg/kg		0.1	0.2
SS-16B	6-Jun-18	11:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	16	mg/kg		0.7	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	82	mg/kg		3	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	23300	mg/kg	D	70	70
SS-16B	6-Jun-18	11:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	37	mg/kg	J	0.4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	468	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.17	mg/kg		0.0041	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.6	mg/kg	J	0.2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	4	mg/kg	J	0.1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	65	mg/kg		0.4	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	264	mg/kg		4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6560	mg/kg	D	10	10
SS-17D	6-Jun-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	20	mg/kg		0.2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	122	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.1	0.2
SS-17D	6-Jun-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	26	mg/kg		0.8	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	6	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	90	mg/kg		4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	36700	mg/kg	D	70	70
SS-17D	6-Jun-18	9:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	33	mg/kg	J	0.5	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	473	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.12	mg/kg		0.0041	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	8	mg/kg		0.5	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	6-Jun-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	7	mg/kg		0.1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	115	mg/kg		0.5	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	307	mg/kg		4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3410	mg/kg	D	10	10
SS-19	6-Jun-18	9:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	11	mg/kg		0.2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	66	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.6	mg/kg		0.1	0.2
SS-19	6-Jun-18	9:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	15	mg/kg		0.7	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	56	mg/kg		3	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	20200	mg/kg	D	70	70
SS-19	6-Jun-18	9:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	29	mg/kg	J	0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	373	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.05	mg/kg	J	0.0039	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.9	mg/kg	J	0.5	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	15	mg/kg		0.1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	64	mg/kg		0.4	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	201	mg/kg		4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5010	mg/kg	D	10	10
SS-13	12-Sep-18	17:05	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	6	mg/kg		0.3	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	136	mg/kg		1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.7	mg/kg		0.1	0.2
SS-13	12-Sep-18	17:05	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.8	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	20	mg/kg		4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	6500	mg/kg	DJ	70	70
SS-13	12-Sep-18	17:05	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	11	mg/kg		0.5	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	419	mg/kg		1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.02	mg/kg	J	0.0034	0.1
SS-13	12-Sep-18	17:05	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	14	mg/kg	J	2	2
SS-13	12-Sep-18	17:05	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	101	mg/kg	J	4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4210	mg/kg	D	10	10
SS-14	12-Sep-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	7	mg/kg		0.2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	117	mg/kg		1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	12-Sep-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.5	mg/kg		0.1	0.2
SS-14	12-Sep-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.8	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	30	mg/kg		3	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	12100	mg/kg	DJ	70	70
SS-14	12-Sep-18	16:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	11	mg/kg		0.5	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	407	mg/kg		1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.02	mg/kg	J	0.0031	0.1
SS-14	12-Sep-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.3	mg/kg	J	0.5	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.1	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	35	mg/kg	J	2	2
SS-14	12-Sep-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	106	mg/kg	J	4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3880	mg/kg	D	10	10
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	26	mg/kg		0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	95	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	6.2	mg/kg	J	0.1	0.2
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.7	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	132	mg/kg		3	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	17300	mg/kg	DJ	70	70
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	377	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	568	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.2	mg/kg		0.003	0.1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.8	mg/kg	J	0.5	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.8	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	45	mg/kg	J	2	2
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	1240	mg/kg	J	4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	7040	mg/kg	D	10	10
SS-15B	12-Sep-18	13:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	36	mg/kg		0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	118	mg/kg		1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.3	mg/kg		0.1	0.2
SS-15B	12-Sep-18	13:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.7	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	39	mg/kg		3	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10400	mg/kg	DJ	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	12-Sep-18	13:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	36	mg/kg	J	0.4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	309	mg/kg		1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.09	mg/kg	J	0.003	0.1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.5	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.9	mg/kg	J	0.1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	25	mg/kg	J	2	2
SS-15B	12-Sep-18	13:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	150	mg/kg	J	4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6460	mg/kg	D	10	10
SS-15G	12-Sep-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	33	mg/kg		0.3	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	81	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	0.2
SS-15G	12-Sep-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	19	mg/kg		0.8	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	3	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	20	mg/kg		4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	24400	mg/kg	DJ	70	70
SS-15G	12-Sep-18	13:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	135	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.01	mg/kg	J	0.0028	0.1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.5	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	3.6	mg/kg	J	0.1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	84	mg/kg	J	2	2
SS-15G	12-Sep-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	52	mg/kg	J	4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4730	mg/kg	D	10	10
SS-16B	12-Sep-18	11:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	16	mg/kg		0.2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	98	mg/kg		1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.6	mg/kg		0.1	0.2
SS-16B	12-Sep-18	11:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	18	mg/kg		0.8	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	81	mg/kg		4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	26200	mg/kg	DJ	70	70
SS-16B	12-Sep-18	11:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	30	mg/kg	J	0.5	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	387	mg/kg		1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.16	mg/kg		0.003	0.1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg		0.5	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.4	mg/kg	J	0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	12-Sep-18	11:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.8	mg/kg	J	0.1	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	83	mg/kg	J	2	2
SS-16B	12-Sep-18	11:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	216	mg/kg	J	4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4840	mg/kg	D	10	10
SS-17D	12-Sep-18	10:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	14	mg/kg		0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	104	mg/kg		1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.8	mg/kg		0.1	0.2
SS-17D	12-Sep-18	10:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	19	mg/kg		0.8	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	56	mg/kg		4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	25500	mg/kg	DJ	70	70
SS-17D	12-Sep-18	10:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	25	mg/kg		0.5	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	240	mg/kg		1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.11	mg/kg		0.0033	0.1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.1	mg/kg	J	0.1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	79	mg/kg	J	2	2
SS-17D	12-Sep-18	10:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	247	mg/kg	J	4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	2750	mg/kg	D	10	10
SS-19	12-Sep-18	8:40	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	14	mg/kg		0.2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	65	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	3.6	mg/kg	J	0.1	0.2
SS-19	12-Sep-18	8:40	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	14	mg/kg		0.7	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	52	mg/kg		3	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	19800	mg/kg	DJ	70	70
SS-19	12-Sep-18	8:40	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	29	mg/kg	J	0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	305	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.06	mg/kg	J	0.0027	0.1
SS-19	12-Sep-18	8:40	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.1	mg/kg	J	0.5	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	3.9	mg/kg	J	0.1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	61	mg/kg	J	2	2
SS-19	12-Sep-18	8:40	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	208	mg/kg	J	4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	4610	mg/kg	D	10	10
SS-15A-2	12-Sep-18	15:00	QC-FD	Antimony	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	30	mg/kg		0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Barium	SED_SIEVE_0.065-1mm	95	mg/kg		1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	12-Sep-18	15:00	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	2	mg/kg		0.1	0.2
SS-15A-2	12-Sep-18	15:00	QC-FD	Chromium	SED_SIEVE_0.065-1mm	17	mg/kg		0.7	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Copper	SED_SIEVE_0.065-1mm	153	mg/kg		3	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Iron	SED_SIEVE_0.065-1mm	27900	mg/kg	D	70	70
SS-15A-2	12-Sep-18	15:00	QC-FD	Lead	SED_SIEVE_0.065-1mm	68	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Manganese	SED_SIEVE_0.065-1mm	449	mg/kg		1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.26	mg/kg		0.0031	0.1
SS-15A-2	12-Sep-18	15:00	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Nickel	SED_SIEVE_0.065-1mm	4.6	mg/kg	J	0.5	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Silver	SED_SIEVE_0.065-1mm	3.2	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	11	mg/kg		0.1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	80	mg/kg		2	2
SS-15A-2	12-Sep-18	15:00	QC-FD	Zinc	SED_SIEVE_0.065-1mm	633	mg/kg		4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4020	mg/kg	D	10	10
SS-01	13-Sep-18	16:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.7	mg/kg	J	0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	49	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	1	mg/kg	J	1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.1	mg/kg	J	0.1	0.2
SS-01	13-Sep-18	16:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		0.7	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<3	mg/kg		3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	30	mg/kg		3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	14700	mg/kg	D	70	70
SS-01	13-Sep-18	16:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	13	mg/kg		0.4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	160	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.01	mg/kg	J	0.0032	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.5	mg/kg	J	0.5	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.9	mg/kg	J	0.1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	44	mg/kg		2	2
SS-01	13-Sep-18	16:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	84	mg/kg		4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3650	mg/kg	D	10	10
SS-05A	13-Sep-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	63	mg/kg		0.3	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	59	mg/kg		1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	2.5	mg/kg		0.1	0.2
SS-05A	13-Sep-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	25	mg/kg		0.8	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	16	mg/kg		3	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	582	mg/kg		4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	77100	mg/kg	D	100	100

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	13-Sep-18	14:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	181	mg/kg		0.5	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1070	mg/kg		1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.09	mg/kg	J	0.003	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	2.8	mg/kg	J	0.2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	11	mg/kg		0.5	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.5	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	3.1	mg/kg	J	0.2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	3.5	mg/kg	J	0.1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	101	mg/kg		2	2
SS-05A	13-Sep-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	1350	mg/kg		4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3700	mg/kg	D	10	10
SS-06G	13-Sep-18	13:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	25	mg/kg		0.2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	94	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<4	mg/kg		4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.2	mg/kg		0.1	0.2
SS-06G	13-Sep-18	13:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.7	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	134	mg/kg		2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	15700	mg/kg	D	70	70
SS-06G	13-Sep-18	13:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	92	mg/kg		0.4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1480	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.13	mg/kg		0.0029	0.1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	3.8	mg/kg	J	0.2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.5	mg/kg	J	0.5	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1.5	mg/kg	J	0.2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.5	mg/kg	J	0.1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	35	mg/kg		0.4	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	568	mg/kg	D	10	10
SS-07	13-Sep-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3970	mg/kg	D	10	10
SS-07	13-Sep-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	24	mg/kg		0.2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	77	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<5	mg/kg		5	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.9	mg/kg		0.1	0.2
SS-07	13-Sep-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	9	mg/kg		0.8	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg	J	1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	150	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	18600	mg/kg	D	70	70
SS-07	13-Sep-18	13:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	55	mg/kg		0.5	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1220	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.11	mg/kg		0.0034	0.1
SS-07	13-Sep-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	2.6	mg/kg	J	0.2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4.2	mg/kg	J	0.5	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	1	mg/kg	J	0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	13-Sep-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.5	mg/kg	J	0.1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	37	mg/kg		0.5	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	450	mg/kg	D	20	20
SS-08	13-Sep-18	12:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5570	mg/kg	D	10	10
SS-08	13-Sep-18	12:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	18	mg/kg		0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	100	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<4	mg/kg		4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	2.2	mg/kg		0.1	0.2
SS-08	13-Sep-18	12:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	8	mg/kg		0.8	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	251	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	11800	mg/kg	D	70	70
SS-08	13-Sep-18	12:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	71	mg/kg		0.5	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	807	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.28	mg/kg		0.0033	0.1
SS-08	13-Sep-18	12:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	4	mg/kg	J	0.5	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	2.4	mg/kg	J	0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.1	mg/kg	J	0.1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	27	mg/kg		0.5	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	477	mg/kg	D	20	20
SS-10A	13-Sep-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6590	mg/kg	D	10	10
SS-10A	13-Sep-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	7	mg/kg		0.3	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	123	mg/kg		1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<5	mg/kg		5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.6	mg/kg		0.1	0.2
SS-10A	13-Sep-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	9	mg/kg		0.8	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	94	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	14800	mg/kg	D	80	80
SS-10A	13-Sep-18	11:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	21	mg/kg		0.5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	593	mg/kg		4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.17	mg/kg		0.0036	0.1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.7	mg/kg	J	0.5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1.4	mg/kg	J	0.1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	37	mg/kg		0.5	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	251	mg/kg	D	20	20
SS-11C	13-Sep-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4350	mg/kg	D	10	10
SS-11C	13-Sep-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	10	mg/kg		0.3	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	112	mg/kg		1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	13-Sep-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.2	mg/kg		0.1	0.2
SS-11C	13-Sep-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.8	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	42	mg/kg		4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	14400	mg/kg	D	70	70
SS-11C	13-Sep-18	9:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	24	mg/kg		0.5	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	562	mg/kg		1	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.03	mg/kg	J	0.0031	0.1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.9	mg/kg	J	0.5	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.5	mg/kg	J	0.2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	1	mg/kg	J	0.1	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	43	mg/kg		2	2
SS-11C	13-Sep-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	174	mg/kg		4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5140	mg/kg	D	10	10
SS-11D	13-Sep-18	8:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	6	mg/kg		0.3	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	150	mg/kg		1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.2	mg/kg		0.1	0.2
SS-11D	13-Sep-18	8:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	14	mg/kg		4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	6200	mg/kg	D	70	70
SS-11D	13-Sep-18	8:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	13	mg/kg		0.5	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	293	mg/kg		1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.03	mg/kg	J	0.0032	0.1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	8	mg/kg		0.5	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.7	mg/kg	J	0.1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	12	mg/kg		2	2
SS-11D	13-Sep-18	8:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	57	mg/kg		4	5
SS-11D	13-Sep-18	8:45	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	5520	mg/kg	D	10	10
SS-11D	13-Sep-18	8:45	QC-FD	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	13-Sep-18	8:45	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	4.7	mg/kg	J	0.3	5
SS-11D	13-Sep-18	8:45	QC-FD	Barium	SED_SIEVE_0.065-1mm	180	mg/kg		1	5
SS-11D	13-Sep-18	8:45	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	QC-FD	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	13-Sep-18	8:45	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	0.4	mg/kg		0.1	0.2
SS-11D	13-Sep-18	8:45	QC-FD	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-11D	13-Sep-18	8:45	QC-FD	Copper	SED_SIEVE_0.065-1mm	13	mg/kg		4	5
SS-11D	13-Sep-18	8:45	QC-FD	Iron	SED_SIEVE_0.065-1mm	6860	mg/kg	D	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	13-Sep-18	8:45	QC-FD	Lead	SED_SIEVE_0.065-1mm	14	mg/kg		0.5	5
SS-11D	13-Sep-18	8:45	QC-FD	Manganese	SED_SIEVE_0.065-1mm	309	mg/kg		1	5
SS-11D	13-Sep-18	8:45	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.04	mg/kg	J	0.0032	0.1
SS-11D	13-Sep-18	8:45	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	QC-FD	Nickel	SED_SIEVE_0.065-1mm	8	mg/kg		0.5	5
SS-11D	13-Sep-18	8:45	QC-FD	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11D	13-Sep-18	8:45	QC-FD	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	1.6	mg/kg	J	0.1	5
SS-11D	13-Sep-18	8:45	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	14	mg/kg		2	2
SS-11D	13-Sep-18	8:45	QC-FD	Zinc	SED_SIEVE_0.065-1mm	61	mg/kg		4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3010	mg/kg	D	10	10
SS-01	29-Nov-18	17:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	4.8	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	33	mg/kg		0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.2	mg/kg	J	0.1	0.2
SS-01	29-Nov-18	17:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	15	mg/kg		0.8	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	27	mg/kg		3	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	18000	mg/kg	D	70	70
SS-01	29-Nov-18	17:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	18	mg/kg		0.5	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	214	mg/kg		1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.01	mg/kg	J	0.002	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	3.4	mg/kg	J	0.5	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.3	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	2.3	mg/kg	J	0.1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	57	mg/kg		0.5	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	122	mg/kg		4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3980	mg/kg	D	10	10
SS-05A	29-Nov-18	15:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	3	mg/kg	J	1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	113	mg/kg		0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	72	mg/kg		0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	10	mg/kg		1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	4.2	mg/kg	J	0.1	0.2
SS-05A	29-Nov-18	15:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	48	mg/kg		0.8	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	24	mg/kg		1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	993	mg/kg		3	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	116000	mg/kg	D	100	100
SS-05A	29-Nov-18	15:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	882	mg/kg	D	7	7
SS-05A	29-Nov-18	15:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	2300	mg/kg		1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.16	mg/kg		0.0019	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	5	mg/kg		0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	18	mg/kg		0.5	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	2.8	mg/kg	J	0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	6	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	29-Nov-18	15:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	6	mg/kg		0.1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	170	mg/kg		0.5	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	1720	mg/kg		4	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	8110	mg/kg	D	10	10
SS-15G	29-Nov-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	22	mg/kg		0.3	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	152	mg/kg		0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	2	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	0.2
SS-15G	29-Nov-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	15	mg/kg		0.9	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	4	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	20	mg/kg		4	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	14200	mg/kg	D	80	80
SS-15G	29-Nov-18	14:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	7	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	273	mg/kg		1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.01	mg/kg	J	0.0022	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	8	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	0.2	mg/kg	J	0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	0.8	mg/kg	J	0.1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	39	mg/kg		0.5	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	57	mg/kg		4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4020	mg/kg	D	10	10
SS-06G	29-Nov-18	14:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	37	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	97	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	6	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.3	mg/kg	J	0.1	0.2
SS-06G	29-Nov-18	14:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	8	mg/kg		0.8	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	135	mg/kg		4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	11300	mg/kg	D	70	70
SS-06G	29-Nov-18	14:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	112	mg/kg		0.5	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1840	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.11	mg/kg		0.0023	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	24	mg/kg		0.5	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	522	mg/kg		4	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	3480	mg/kg	D	10	10
SS-07	29-Nov-18	13:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	30	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	89	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	29-Nov-18	13:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.1	mg/kg	J	0.1	0.2
SS-07	29-Nov-18	13:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.8	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	7	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	163	mg/kg		4	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	21900	mg/kg	D	70	70
SS-07	29-Nov-18	13:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	71	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1860	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0024	mg/kg		0.0024	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	5	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	44	mg/kg		0.5	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	497	mg/kg		4	5
SS-07	29-Nov-18	13:45	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	4150	mg/kg	D	10	10
SS-07	29-Nov-18	13:45	QC-FD	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	29	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Barium	SED_SIEVE_0.065-1mm	88	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	QC-FD	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	1.7	mg/kg	J	0.1	0.2
SS-07	29-Nov-18	13:45	QC-FD	Chromium	SED_SIEVE_0.065-1mm	15	mg/kg		0.8	5
SS-07	29-Nov-18	13:45	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	7	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Copper	SED_SIEVE_0.065-1mm	186	mg/kg		3	5
SS-07	29-Nov-18	13:45	QC-FD	Iron	SED_SIEVE_0.065-1mm	27600	mg/kg	D	70	70
SS-07	29-Nov-18	13:45	QC-FD	Lead	SED_SIEVE_0.065-1mm	82	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	QC-FD	Manganese	SED_SIEVE_0.065-1mm	1790	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Mercury	SED_SIEVE_0.065-1mm	0.19	mg/kg		0.0018	0.1
SS-07	29-Nov-18	13:45	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	QC-FD	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	QC-FD	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-07	29-Nov-18	13:45	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	60	mg/kg		0.5	1
SS-07	29-Nov-18	13:45	QC-FD	Zinc	SED_SIEVE_0.065-1mm	733	mg/kg		4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4330	mg/kg	D	10	10
SS-08	29-Nov-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	51	mg/kg		0.3	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	82	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.4	mg/kg	J	0.1	0.2
SS-08	29-Nov-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	5	mg/kg		0.8	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	222	mg/kg		4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10000	mg/kg	D	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	29-Nov-18	12:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	50	mg/kg		0.5	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	1390	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.23	mg/kg		0.0018	0.1
SS-08	29-Nov-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	21	mg/kg		0.5	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	337	mg/kg		4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	12700	mg/kg	D	20	20
SS-10A	29-Nov-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	12	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	169	mg/kg		0.2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	6	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	4.2	mg/kg	J	0.1	0.2
SS-10A	29-Nov-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	13	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	7	mg/kg		2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	211	mg/kg		4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	22200	mg/kg	D	90	90
SS-10A	29-Nov-18	11:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	43	mg/kg		0.6	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	463	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.22	mg/kg		0.0022	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.6	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.6	mg/kg		0.6	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.3	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	50	mg/kg		0.6	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	565	mg/kg		5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6030	mg/kg	D	10	10
SS-11C	29-Nov-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	6	mg/kg		0.3	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	131	mg/kg		0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1.2	mg/kg	J	0.1	0.2
SS-11C	29-Nov-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.8	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	37	mg/kg		4	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	15600	mg/kg	D	70	70
SS-11C	29-Nov-18	9:45	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	14	mg/kg		0.5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	539	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0018	mg/kg		0.0018	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	29-Nov-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	17	mg/kg		0.1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	44	mg/kg		0.5	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	178	mg/kg		4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6080	mg/kg	D	10	10
SS-11D	29-Nov-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	8	mg/kg		0.3	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	170	mg/kg		0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.3	mg/kg		0.1	0.2
SS-11D	29-Nov-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	15	mg/kg		0.8	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	17	mg/kg		4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	7910	mg/kg	D	70	70
SS-11D	29-Nov-18	9:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	21	mg/kg		0.5	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	360	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0019	mg/kg		0.0019	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	9	mg/kg		0.5	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	14	mg/kg		0.5	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	73	mg/kg		4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	7140	mg/kg	D	10	10
SS-13	28-Nov-18	17:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	7	mg/kg		0.3	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	158	mg/kg		0.2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1	mg/kg		0.1	0.2
SS-13	28-Nov-18	17:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.8	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	47	mg/kg		4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	11800	mg/kg	D	70	70
SS-13	28-Nov-18	17:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	14	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	392	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0021	mg/kg		0.0021	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	7	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	26	mg/kg		0.5	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	189	mg/kg		4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4140	mg/kg	D	10	10
SS-14	28-Nov-18	16:00	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	6	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	93	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	28-Nov-18	16:00	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.5	mg/kg		0.1	0.2
SS-14	28-Nov-18	16:00	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	8	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	22	mg/kg		3	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	8740	mg/kg	D	70	70
SS-14	28-Nov-18	16:00	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	9	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	404	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0021	mg/kg		0.0021	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	21	mg/kg		0.5	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	117	mg/kg		4	5
SS-14	28-Nov-18	16:00	QC-FD	Aluminum	SED_SIEVE_0.065-1mm	4620	mg/kg	D	10	10
SS-14	28-Nov-18	16:00	QC-FD	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Arsenic	SED_SIEVE_0.065-1mm	6	mg/kg		0.3	5
SS-14	28-Nov-18	16:00	QC-FD	Barium	SED_SIEVE_0.065-1mm	104	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	QC-FD	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Cadmium	SED_SIEVE_0.065-1mm	0.5	mg/kg		0.1	0.2
SS-14	28-Nov-18	16:00	QC-FD	Chromium	SED_SIEVE_0.065-1mm	9	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	QC-FD	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Copper	SED_SIEVE_0.065-1mm	26	mg/kg		4	5
SS-14	28-Nov-18	16:00	QC-FD	Iron	SED_SIEVE_0.065-1mm	10100	mg/kg	D	70	70
SS-14	28-Nov-18	16:00	QC-FD	Lead	SED_SIEVE_0.065-1mm	14	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	QC-FD	Manganese	SED_SIEVE_0.065-1mm	438	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Mercury	SED_SIEVE_0.065-1mm	<0.0018	mg/kg		0.0018	0.1
SS-14	28-Nov-18	16:00	QC-FD	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	QC-FD	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	QC-FD	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-14	28-Nov-18	16:00	QC-FD	Vanadium	SED_SIEVE_0.065-1mm	24	mg/kg		0.5	1
SS-14	28-Nov-18	16:00	QC-FD	Zinc	SED_SIEVE_0.065-1mm	122	mg/kg		4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4700	mg/kg	D	10	10
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	41	mg/kg		0.3	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	157	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	1	mg/kg		0.1	0.2
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	12	mg/kg		0.8	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	163	mg/kg		4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	22200	mg/kg	D	70	70

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	39	mg/kg		0.5	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	583	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.12	mg/kg		0.0019	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	59	mg/kg		0.5	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	316	mg/kg		4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	7500	mg/kg	D	10	10
SS-15B	28-Nov-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	24	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	113	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.6	mg/kg		0.1	0.2
SS-15B	28-Nov-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	11	mg/kg		0.8	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	32	mg/kg		4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10700	mg/kg	D	70	70
SS-15B	28-Nov-18	13:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	14	mg/kg		0.5	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	289	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0019	mg/kg		0.0019	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	23	mg/kg		0.5	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	202	mg/kg		4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	6400	mg/kg	D	10	10
SS-16B	28-Nov-18	11:30	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	16	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	145	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.7	mg/kg		0.1	0.2
SS-16B	28-Nov-18	11:30	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	18	mg/kg		0.8	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	78	mg/kg		3	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	27000	mg/kg	D	70	70
SS-16B	28-Nov-18	11:30	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	31	mg/kg		0.5	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	747	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.0018	mg/kg		0.0018	0.1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	28-Nov-18	11:30	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	74	mg/kg		0.5	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	296	mg/kg		4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	5760	mg/kg	D	10	10
SS-17D	28-Nov-18	10:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	12	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	120	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.7	mg/kg		0.1	0.2
SS-17D	28-Nov-18	10:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	19	mg/kg		0.8	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	5	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	60	mg/kg		4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	27200	mg/kg	D	70	70
SS-17D	28-Nov-18	10:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	28	mg/kg		0.5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	285	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	<0.002	mg/kg		0.002	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	6	mg/kg		0.5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	83	mg/kg		0.5	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	236	mg/kg		4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_0.065-1mm	4890	mg/kg	D	10	10
SS-19	28-Nov-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_0.065-1mm	16	mg/kg		0.3	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Barium	SED_SIEVE_0.065-1mm	105	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_0.065-1mm	<0.4	mg/kg		0.4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Boron	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_0.065-1mm	0.8	mg/kg		0.1	0.2
SS-19	28-Nov-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_0.065-1mm	10	mg/kg		0.8	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_0.065-1mm	<1	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Copper	SED_SIEVE_0.065-1mm	71	mg/kg		4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Iron	SED_SIEVE_0.065-1mm	10700	mg/kg	D	70	70
SS-19	28-Nov-18	9:15	S-ROUTINE	Lead	SED_SIEVE_0.065-1mm	47	mg/kg		0.5	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_0.065-1mm	450	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_0.065-1mm	0.11	mg/kg		0.0021	0.1
SS-19	28-Nov-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_0.065-1mm	<0.5	mg/kg		0.5	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Silver	SED_SIEVE_0.065-1mm	<0.2	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_0.065-1mm	<0.1	mg/kg		0.1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_0.065-1mm	26	mg/kg		0.5	1
SS-19	28-Nov-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_0.065-1mm	281	mg/kg		4	5

Table D-3. Coarse fraction instream sediment sample results in the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	22-Mar-18	16:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2810	mg/kg		5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.52	mg/kg	J	0.08	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	43	mg/kg		0.4	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.08	mg/kg	J	0.06	0.2
SS-01	22-Mar-18	16:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	1.5	mg/kg	J	0.06	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	12	mg/kg		2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	5440	mg/kg	D	40	40
SS-01	22-Mar-18	16:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	4.4	mg/kg	J	0.08	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	171	mg/kg		0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.1	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.08	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.2	1
SS-01	22-Mar-18	16:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	39	mg/kg		0.6	5
SS-01	22-Mar-18	16:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.003	mg/kg	J	0.00012	0.1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3910	mg/kg		5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	3.5	mg/kg	J	0.07	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	154	mg/kg		0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	64	mg/kg		0.4	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.2	mg/kg		0.06	0.2
SS-05A	22-Mar-18	15:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	8	mg/kg		0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2.7	mg/kg	J	0.06	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	835	mg/kg	J	2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	12600	mg/kg	D	40	40
SS-05A	22-Mar-18	15:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	501	mg/kg	J	0.08	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1220	mg/kg		0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	2	mg/kg	J	0.1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.1	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	1.8	mg/kg	J	0.5	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.08	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	18	mg/kg		0.2	1
SS-05A	22-Mar-18	15:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	541	mg/kg		0.6	5
SS-05A	22-Mar-18	15:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.05	mg/kg	J	0.00012	0.1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4590	mg/kg		6	6
SS-06G	22-Mar-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.79	mg/kg	J	0.08	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	82	mg/kg		0.6	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	148	mg/kg		0.4	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	22-Mar-18	14:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	6	mg/kg		1	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.7	mg/kg		0.06	0.2
SS-06G	22-Mar-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.6	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4.6	mg/kg	J	0.07	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	238	mg/kg	J	2	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	7790	mg/kg	D	50	50
SS-06G	22-Mar-18	14:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	227	mg/kg	J	0.08	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	2390	mg/kg		0.5	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.1	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4.4	mg/kg	J	0.1	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.5	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.08	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		0.2	1
SS-06G	22-Mar-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	291	mg/kg		0.6	5
SS-06G	22-Mar-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.03	mg/kg	J	0.00013	0.1
SS-07	22-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4950	mg/kg		5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.13	mg/kg	J	0.08	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	22	mg/kg		0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	73	mg/kg		0.4	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.06	0.2
SS-07	22-Mar-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	7	mg/kg		0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	6	mg/kg		0.07	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	53	mg/kg	J	2	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8900	mg/kg	D	50	50
SS-07	22-Mar-18	14:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	26	mg/kg	J	0.08	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	992	mg/kg		0.5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.6	mg/kg	J	0.1	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.5	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.8	mg/kg	J	0.08	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	17	mg/kg		0.2	1
SS-07	22-Mar-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	227	mg/kg		0.6	5
SS-07	22-Mar-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.01	mg/kg	J	0.00012	0.1
SS-08	22-Mar-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4280	mg/kg		6	6
SS-08	22-Mar-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.18	mg/kg	J	0.09	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	15	mg/kg		0.6	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	99	mg/kg		0.4	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.1	mg/kg		0.07	0.2
SS-08	22-Mar-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3.9	mg/kg	J	0.6	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3.1	mg/kg	J	0.08	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	173	mg/kg	J	2	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8130	mg/kg	D	50	50
SS-08	22-Mar-18	12:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	41	mg/kg	J	0.09	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	22-Mar-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	619	mg/kg		0.6	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.6	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	12	mg/kg		0.09	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.2	1
SS-08	22-Mar-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	306	mg/kg		0.7	5
SS-08	22-Mar-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.93	mg/kg	J	0.00072	0.1
SS-08	22-Mar-18	12:45	QC-FD	Aluminum	SED_SIEVE_1-2mm	4000	mg/kg		7	7
SS-08	22-Mar-18	12:45	QC-FD	Antimony	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Arsenic	SED_SIEVE_1-2mm	7	mg/kg		0.7	5
SS-08	22-Mar-18	12:45	QC-FD	Barium	SED_SIEVE_1-2mm	68	mg/kg		0.5	5
SS-08	22-Mar-18	12:45	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-08	22-Mar-18	12:45	QC-FD	Cadmium	SED_SIEVE_1-2mm	1.6	mg/kg		0.07	0.2
SS-08	22-Mar-18	12:45	QC-FD	Chromium	SED_SIEVE_1-2mm	4.7	mg/kg	J	0.7	5
SS-08	22-Mar-18	12:45	QC-FD	Cobalt	SED_SIEVE_1-2mm	2.4	mg/kg	J	0.08	5
SS-08	22-Mar-18	12:45	QC-FD	Copper	SED_SIEVE_1-2mm	95	mg/kg		2	5
SS-08	22-Mar-18	12:45	QC-FD	Iron	SED_SIEVE_1-2mm	7960	mg/kg	D	50	50
SS-08	22-Mar-18	12:45	QC-FD	Lead	SED_SIEVE_1-2mm	21	mg/kg		0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Manganese	SED_SIEVE_1-2mm	456	mg/kg		0.6	5
SS-08	22-Mar-18	12:45	QC-FD	Molybdenum	SED_SIEVE_1-2mm	14	mg/kg		0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Nickel	SED_SIEVE_1-2mm	2.8	mg/kg	J	0.2	5
SS-08	22-Mar-18	12:45	QC-FD	Selenium	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.3	5
SS-08	22-Mar-18	12:45	QC-FD	Silver	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-08	22-Mar-18	12:45	QC-FD	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5
SS-08	22-Mar-18	12:45	QC-FD	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.2	1
SS-08	22-Mar-18	12:45	QC-FD	Zinc	SED_SIEVE_1-2mm	220	mg/kg		0.7	5
SS-08	22-Mar-18	12:45	QC-FD	Mercury	SED_SIEVE_1-2mm	0.2	mg/kg		0.00014	0.1
SS-10A	22-Mar-18	11:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	14800	mg/kg		7	7
SS-10A	22-Mar-18	11:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.1	mg/kg	J	0.1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	12	mg/kg		0.7	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	232	mg/kg		0.5	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.1	mg/kg		0.07	0.2
SS-10A	22-Mar-18	11:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4.1	mg/kg	J	0.7	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4.9	mg/kg	J	0.08	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	96	mg/kg	J	2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	13100	mg/kg	D	50	50
SS-10A	22-Mar-18	11:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	38	mg/kg	J	0.1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1440	mg/kg		0.6	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.8	mg/kg	J	0.2	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.1	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		0.2	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	22-Mar-18	11:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	300	mg/kg		0.7	5
SS-10A	22-Mar-18	11:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.26	mg/kg		0.00015	0.1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3390	mg/kg		5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.09	mg/kg	J	0.07	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	3.7	mg/kg	J	0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	92	mg/kg		0.4	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.06	0.2
SS-11C	22-Mar-18	9:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4.9	mg/kg	J	0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3.6	mg/kg	J	0.06	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	49	mg/kg	J	2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	5660	mg/kg	D	40	40
SS-11C	22-Mar-18	9:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	8	mg/kg		0.08	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1290	mg/kg		0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.9	mg/kg	J	0.1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4.1	mg/kg	J	0.1	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.59	mg/kg	J	0.08	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.2	1
SS-11C	22-Mar-18	9:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	119	mg/kg		0.6	5
SS-11C	22-Mar-18	9:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.00011	0.1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	8070	mg/kg		6	6
SS-11D	22-Mar-18	8:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.1	mg/kg	J	0.09	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	4.9	mg/kg	J	0.6	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	219	mg/kg		0.4	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.1	mg/kg		0.07	0.2
SS-11D	22-Mar-18	8:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.6	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3.4	mg/kg	J	0.07	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	30	mg/kg	J	2	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8570	mg/kg	D	50	50
SS-11D	22-Mar-18	8:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	16	mg/kg		0.09	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	628	mg/kg		0.5	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	6	mg/kg		0.1	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.6	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.1	mg/kg	J	0.09	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		0.2	1
SS-11D	22-Mar-18	8:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	239	mg/kg		0.7	5
SS-11D	22-Mar-18	8:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.003	mg/kg	J	0.00013	0.1
SS-13	21-Mar-18	17:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4150	mg/kg		6	6
SS-13	21-Mar-18	17:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.09	mg/kg	J	0.09	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	6	mg/kg		0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	112	mg/kg		0.4	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-13	21-Mar-18	17:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.9	mg/kg		0.07	0.2
SS-13	21-Mar-18	17:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	8	mg/kg		0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.08	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	34	mg/kg		2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6680	mg/kg	D	50	50
SS-13	21-Mar-18	17:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	11	mg/kg		0.09	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	432	mg/kg		0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.1	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4.9	mg/kg	J	0.2	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.98	mg/kg	J	0.09	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.2	1
SS-13	21-Mar-18	17:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	203	mg/kg	J	0.7	5
SS-13	21-Mar-18	17:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.03	mg/kg	J	0.00014	0.1
SS-14	21-Mar-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	6680	mg/kg		6	6
SS-14	21-Mar-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.14	mg/kg	J	0.09	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	7	mg/kg		0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	193	mg/kg		0.4	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.7	mg/kg		0.07	0.2
SS-14	21-Mar-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2.7	mg/kg	J	0.08	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	32	mg/kg		2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8730	mg/kg	D	50	50
SS-14	21-Mar-18	16:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	9	mg/kg		0.09	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	688	mg/kg		0.6	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	6	mg/kg		0.2	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.2	1
SS-14	21-Mar-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	160	mg/kg	J	0.7	5
SS-14	21-Mar-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.00015	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.08	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	17	mg/kg		0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	37	mg/kg		0.4	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.06	0.2
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2.2	mg/kg	J	0.06	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	72	mg/kg		2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6190	mg/kg	D	40	40
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	25	mg/kg		0.08	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	315	mg/kg		0.5	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.3	mg/kg	J	0.1	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	4.8	mg/kg	J	0.5	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.08	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.2	1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	212	mg/kg	J	0.6	5
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.06	mg/kg	J	0.00012	0.1
SS-15A-2	21-Mar-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2970	mg/kg		5	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	7170	mg/kg		6	6
SS-15B	21-Mar-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.08	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	21	mg/kg		0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	151	mg/kg		0.4	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.5	mg/kg	J	0.06	0.2
SS-15B	21-Mar-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3.2	mg/kg	J	0.07	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	70	mg/kg		2	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	9740	mg/kg	D	50	50
SS-15B	21-Mar-18	12:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	38	mg/kg		0.08	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	497	mg/kg		0.5	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	7	mg/kg		0.1	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.1	mg/kg	J	0.09	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		0.2	1
SS-15B	21-Mar-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	757	mg/kg	J	0.6	5
SS-15B	21-Mar-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.05	mg/kg	J	0.00012	0.1
SS-15G	22-Mar-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	7470	mg/kg		5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.88	mg/kg	J	0.08	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	33	mg/kg		0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	134	mg/kg		0.4	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.2	mg/kg		0.06	0.2
SS-15G	22-Mar-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3.7	mg/kg	J	0.06	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	39	mg/kg	J	2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	13100	mg/kg	D	40	40
SS-15G	22-Mar-18	13:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	18	mg/kg		0.08	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	135	mg/kg		0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.1	mg/kg	J	0.1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	8	mg/kg		0.1	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.2	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.83	mg/kg	J	0.08	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	20	mg/kg		0.2	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	22-Mar-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	58	mg/kg		0.6	5
SS-15G	22-Mar-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.005	mg/kg	J	0.00012	0.1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3450	mg/kg		6	6
SS-16B	21-Mar-18	10:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.25	mg/kg	J	0.09	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	13	mg/kg		0.7	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	57	mg/kg		0.4	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.1	mg/kg	J	0.07	0.2
SS-16B	21-Mar-18	10:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4.6	mg/kg	J	0.7	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2.2	mg/kg	J	0.08	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	73	mg/kg		2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6840	mg/kg	D	50	50
SS-16B	21-Mar-18	10:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	18	mg/kg		0.09	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	476	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.1	mg/kg	J	0.2	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.1	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.2	1
SS-16B	21-Mar-18	10:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	339	mg/kg	J	0.7	5
SS-16B	21-Mar-18	10:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.14	mg/kg		0.00014	0.1
SS-16B	21-Mar-18	10:45	QC-FD	Aluminum	SED_SIEVE_1-2mm	3470	mg/kg		5	5
SS-16B	21-Mar-18	10:45	QC-FD	Antimony	SED_SIEVE_1-2mm	0.32	mg/kg	J	0.08	5
SS-16B	21-Mar-18	10:45	QC-FD	Arsenic	SED_SIEVE_1-2mm	13	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Barium	SED_SIEVE_1-2mm	80	mg/kg		0.4	5
SS-16B	21-Mar-18	10:45	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-16B	21-Mar-18	10:45	QC-FD	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-16B	21-Mar-18	10:45	QC-FD	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.06	0.2
SS-16B	21-Mar-18	10:45	QC-FD	Chromium	SED_SIEVE_1-2mm	7	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Cobalt	SED_SIEVE_1-2mm	2.5	mg/kg	J	0.07	5
SS-16B	21-Mar-18	10:45	QC-FD	Copper	SED_SIEVE_1-2mm	94	mg/kg		2	5
SS-16B	21-Mar-18	10:45	QC-FD	Iron	SED_SIEVE_1-2mm	8860	mg/kg	D	50	50
SS-16B	21-Mar-18	10:45	QC-FD	Lead	SED_SIEVE_1-2mm	21	mg/kg		0.08	5
SS-16B	21-Mar-18	10:45	QC-FD	Manganese	SED_SIEVE_1-2mm	595	mg/kg		0.5	5
SS-16B	21-Mar-18	10:45	QC-FD	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Nickel	SED_SIEVE_1-2mm	3.7	mg/kg	J	0.1	5
SS-16B	21-Mar-18	10:45	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-16B	21-Mar-18	10:45	QC-FD	Silver	SED_SIEVE_1-2mm	2.4	mg/kg	J	0.5	5
SS-16B	21-Mar-18	10:45	QC-FD	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.08	5
SS-16B	21-Mar-18	10:45	QC-FD	Vanadium	SED_SIEVE_1-2mm	17	mg/kg		0.2	1
SS-16B	21-Mar-18	10:45	QC-FD	Zinc	SED_SIEVE_1-2mm	199	mg/kg		0.6	5
SS-16B	21-Mar-18	10:45	QC-FD	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.00012	0.1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3370	mg/kg		6	6
SS-17D	21-Mar-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.19	mg/kg	J	0.08	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	10	mg/kg		0.6	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	62	mg/kg		0.4	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	21-Mar-18	9:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.06	0.2
SS-17D	21-Mar-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	7	mg/kg		0.6	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	1.9	mg/kg	J	0.07	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	34	mg/kg		2	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6450	mg/kg	D	50	50
SS-17D	21-Mar-18	9:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	18	mg/kg		0.08	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	320	mg/kg		0.5	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.4	mg/kg	J	0.1	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.87	mg/kg	J	0.09	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.2	1
SS-17D	21-Mar-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	120	mg/kg	J	0.6	5
SS-17D	21-Mar-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.19	mg/kg		0.00012	0.1
SS-19	21-Mar-18	8:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3150	mg/kg		5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	0.12	mg/kg	J	0.08	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	9	mg/kg		0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	55	mg/kg		0.4	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.2	mg/kg		0.06	0.2
SS-19	21-Mar-18	8:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	7	mg/kg		0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.06	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	36	mg/kg		2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6140	mg/kg	D	40	40
SS-19	21-Mar-18	8:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	10	mg/kg		0.08	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	309	mg/kg		0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4	mg/kg	J	0.1	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.83	mg/kg	J	0.08	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.2	1
SS-19	21-Mar-18	8:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	98	mg/kg	J	0.6	5
SS-19	21-Mar-18	8:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.03	mg/kg	J	0.00011	0.1
SS-06G	7-Jun-18	14:45	QC-FD	Aluminum	SED_SIEVE_1-2mm	3730	mg/kg	D	10	10
SS-06G	7-Jun-18	14:45	QC-FD	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Arsenic	SED_SIEVE_1-2mm	25	mg/kg		0.2	5
SS-06G	7-Jun-18	14:45	QC-FD	Barium	SED_SIEVE_1-2mm	66	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-06G	7-Jun-18	14:45	QC-FD	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-06G	7-Jun-18	14:45	QC-FD	Chromium	SED_SIEVE_1-2mm	5	mg/kg		0.7	5
SS-06G	7-Jun-18	14:45	QC-FD	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	QC-FD	Copper	SED_SIEVE_1-2mm	72	mg/kg		3	5
SS-06G	7-Jun-18	14:45	QC-FD	Iron	SED_SIEVE_1-2mm	8760	mg/kg	D	60	60
SS-06G	7-Jun-18	14:45	QC-FD	Lead	SED_SIEVE_1-2mm	54	mg/kg		0.4	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-06G	7-Jun-18	14:45	QC-FD	Manganese	SED_SIEVE_1-2mm	1100	mg/kg		1	5
SS-06G	7-Jun-18	14:45	QC-FD	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0037	0.1
SS-06G	7-Jun-18	14:45	QC-FD	Molybdenum	SED_SIEVE_1-2mm	1	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	QC-FD	Nickel	SED_SIEVE_1-2mm	3.6	mg/kg	J	0.4	5
SS-06G	7-Jun-18	14:45	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	QC-FD	Silver	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	QC-FD	Uranium-238	SED_SIEVE_1-2mm	1.9	mg/kg	J	0.1	5
SS-06G	7-Jun-18	14:45	QC-FD	Vanadium	SED_SIEVE_1-2mm	18	mg/kg		0.4	1
SS-06G	7-Jun-18	14:45	QC-FD	Zinc	SED_SIEVE_1-2mm	230	mg/kg		3	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Aluminum	SED_SIEVE_1-2mm	14100	mg/kg	D	10	10
SS-15A-2	6-Jun-18	13:30	QC-FD	Antimony	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Arsenic	SED_SIEVE_1-2mm	105	mg/kg		0.3	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Barium	SED_SIEVE_1-2mm	356	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Beryllium	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Cadmium	SED_SIEVE_1-2mm	2.6	mg/kg		0.1	0.2
SS-15A-2	6-Jun-18	13:30	QC-FD	Chromium	SED_SIEVE_1-2mm	10	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Copper	SED_SIEVE_1-2mm	335	mg/kg		4	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Iron	SED_SIEVE_1-2mm	14000	mg/kg	D	70	70
SS-15A-2	6-Jun-18	13:30	QC-FD	Lead	SED_SIEVE_1-2mm	35	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Manganese	SED_SIEVE_1-2mm	442	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Mercury	SED_SIEVE_1-2mm	0.22	mg/kg		0.0045	0.1
SS-15A-2	6-Jun-18	13:30	QC-FD	Molybdenum	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Nickel	SED_SIEVE_1-2mm	6	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Silver	SED_SIEVE_1-2mm	2.3	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Uranium-238	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.1	5
SS-15A-2	6-Jun-18	13:30	QC-FD	Vanadium	SED_SIEVE_1-2mm	20	mg/kg		0.5	1
SS-15A-2	6-Jun-18	13:30	QC-FD	Zinc	SED_SIEVE_1-2mm	518	mg/kg		4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2660	mg/kg	D	10	10
SS-01	7-Jun-18	17:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	3.2	mg/kg	J	0.2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	33	mg/kg		1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.1	mg/kg	J	0.1	0.2
SS-01	7-Jun-18	17:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4.3	mg/kg	J	0.8	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	13	mg/kg		4	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	4800	mg/kg	D	70	70
SS-01	7-Jun-18	17:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	9	mg/kg		0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	199	mg/kg		1	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.01	mg/kg	J	0.0043	0.1
SS-01	7-Jun-18	17:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-01	7-Jun-18	17:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-01	7-Jun-18	17:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.5	1
SS-01	7-Jun-18	17:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	98	mg/kg		4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3770	mg/kg	D	10	10
SS-05A	7-Jun-18	16:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	49	mg/kg		0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	50	mg/kg		1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	2.7	mg/kg		0.1	0.2
SS-05A	7-Jun-18	16:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	8	mg/kg		0.7	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	374	mg/kg	J	3	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	18200	mg/kg	D	60	60
SS-05A	7-Jun-18	16:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	122	mg/kg		0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1780	mg/kg		1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.08	mg/kg	J	0.0039	0.1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	9	mg/kg		0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.8	mg/kg	J	0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	1.1	mg/kg	J	0.2	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.1	5
SS-05A	7-Jun-18	16:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	24	mg/kg		0.4	1
SS-05A	7-Jun-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	1210	mg/kg		4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3080	mg/kg	D	10	10
SS-06G	7-Jun-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	32	mg/kg		0.2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	69	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-06G	7-Jun-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4	mg/kg	J	0.7	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	115	mg/kg	J	3	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8020	mg/kg	D	70	70
SS-06G	7-Jun-18	14:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	37	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	952	mg/kg		1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0038	0.1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	1.8	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.5	mg/kg	J	0.5	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.2	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.7	mg/kg	J	0.1	5
SS-06G	7-Jun-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.4	1
SS-06G	7-Jun-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	189	mg/kg		4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2970	mg/kg	D	10	10
SS-07	7-Jun-18	14:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	21	mg/kg		0.2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	69	mg/kg		1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	7-Jun-18	14:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.1	0.2
SS-07	7-Jun-18	14:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3.8	mg/kg	J	0.7	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	93	mg/kg	J	3	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	7380	mg/kg	D	60	60
SS-07	7-Jun-18	14:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	53	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1020	mg/kg		0.9	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.03	mg/kg	J	0.0039	0.1
SS-07	7-Jun-18	14:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	1	mg/kg	J	0.2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.5	mg/kg	J	0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.2	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5
SS-07	7-Jun-18	14:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.4	1
SS-07	7-Jun-18	14:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	171	mg/kg		3	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	5330	mg/kg	D	10	10
SS-08	7-Jun-18	12:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	18	mg/kg		0.2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	73	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-08	7-Jun-18	12:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.7	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	110	mg/kg	J	3	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8250	mg/kg	D	60	60
SS-08	7-Jun-18	12:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	72	mg/kg		0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	734	mg/kg		1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0038	0.1
SS-08	7-Jun-18	12:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	1	mg/kg	J	0.2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.7	mg/kg	J	0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.1	5
SS-08	7-Jun-18	12:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		0.4	1
SS-08	7-Jun-18	12:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	147	mg/kg		3	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	10600	mg/kg	D	10	10
SS-10A	7-Jun-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	15	mg/kg		0.3	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	185	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.9	mg/kg		0.1	0.2
SS-10A	7-Jun-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3.5	mg/kg	J	0.9	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	5	mg/kg	J	1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	87	mg/kg	J	4	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	11000	mg/kg	D	80	80
SS-10A	7-Jun-18	11:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	50	mg/kg		0.6	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-10A	7-Jun-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1460	mg/kg		1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.13	mg/kg		0.005	0.1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.3	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.6	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.1	5
SS-10A	7-Jun-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.6	1
SS-10A	7-Jun-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	280	mg/kg		5	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4770	mg/kg	D	10	10
SS-11C	7-Jun-18	10:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	3.5	mg/kg	J	0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	70	mg/kg		1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.1	0.2
SS-11C	7-Jun-18	10:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	8	mg/kg		0.7	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	19	mg/kg		3	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6150	mg/kg	D	60	60
SS-11C	7-Jun-18	10:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	6	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	517	mg/kg		1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.01	mg/kg	J	0.004	0.1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	5	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.1	5
SS-11C	7-Jun-18	10:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.4	1
SS-11C	7-Jun-18	10:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	63	mg/kg		4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	5540	mg/kg	D	10	10
SS-11D	7-Jun-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	7	mg/kg		0.2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	180	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.1	0.2
SS-11D	7-Jun-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	12	mg/kg		0.7	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	62	mg/kg	J	3	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8150	mg/kg	D	60	60
SS-11D	7-Jun-18	9:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	29	mg/kg		0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	473	mg/kg		1	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.0038	0.1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	8	mg/kg		0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11D	7-Jun-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	7-Jun-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		0.4	1
SS-11D	7-Jun-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	70	mg/kg		4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	5760	mg/kg	D	10	10
SS-13	6-Jun-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	7	mg/kg		0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	200	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.1	0.2
SS-13	6-Jun-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	16	mg/kg		0.8	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	125	mg/kg	J	3	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8360	mg/kg	D	70	70
SS-13	6-Jun-18	16:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	13	mg/kg		0.5	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	559	mg/kg		1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.0042	0.1
SS-13	6-Jun-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	8	mg/kg		0.5	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.9	mg/kg	J	0.1	5
SS-13	6-Jun-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		0.5	1
SS-13	6-Jun-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	108	mg/kg	J	4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4930	mg/kg	D	10	10
SS-14	6-Jun-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	7	mg/kg		0.2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	153	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.1	0.2
SS-14	6-Jun-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.8	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	30	mg/kg		3	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8950	mg/kg	D	70	70
SS-14	6-Jun-18	14:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	18	mg/kg		0.5	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	550	mg/kg		1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0039	0.1
SS-14	6-Jun-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	6	mg/kg		0.5	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.9	mg/kg	J	0.1	5
SS-14	6-Jun-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		0.5	1
SS-14	6-Jun-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	168	mg/kg	J	4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	12300	mg/kg	D	10	10
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	25	mg/kg	J	0.3	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	284	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.4	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.7	mg/kg		0.1	0.2
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	12	mg/kg		0.8	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	103	mg/kg	J	4	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	13200	mg/kg	D	70	70
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	56	mg/kg	J	0.5	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	357	mg/kg		1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.2	mg/kg		0.0043	0.1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	7	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.9	mg/kg	J	0.2	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.8	mg/kg	J	0.1	5
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	24	mg/kg		0.5	1
SS-15A-2	6-Jun-18	13:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	203	mg/kg	J	4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	7020	mg/kg	D	10	10
SS-15B	6-Jun-18	12:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	27	mg/kg	J	0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	87	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-15B	6-Jun-18	12:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.8	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	331	mg/kg	J	3	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	11500	mg/kg	D	70	70
SS-15B	6-Jun-18	12:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	30	mg/kg	J	0.5	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	165	mg/kg		1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.09	mg/kg	J	0.0043	0.1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	7	mg/kg		0.5	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.2	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.3	mg/kg	J	0.1	5
SS-15B	6-Jun-18	12:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	20	mg/kg		0.5	1
SS-15B	6-Jun-18	12:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	176	mg/kg	J	4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	16000	mg/kg	D	20	20
SS-15G	6-Jun-18	13:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<2	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	21	mg/kg		0.4	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	299	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.6	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.2	0.2
SS-15G	6-Jun-18	13:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	18	mg/kg		1	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	13	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	55	mg/kg	J	5	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	29100	mg/kg	D	100	100
SS-15G	6-Jun-18	13:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	29	mg/kg	J	0.7	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15G	6-Jun-18	13:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	451	mg/kg		2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.06	mg/kg	J	0.01	0.1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.3	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	17	mg/kg		0.7	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.7	mg/kg		0.7	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	2.5	mg/kg	J	0.2	5
SS-15G	6-Jun-18	13:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	68	mg/kg		0.7	1
SS-15G	6-Jun-18	13:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	99	mg/kg	J	6	6
SS-16B	6-Jun-18	11:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	7420	mg/kg	D	10	10
SS-16B	6-Jun-18	11:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	10	mg/kg		0.3	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	176	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.1	0.2
SS-16B	6-Jun-18	11:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	8	mg/kg		0.8	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	5	mg/kg	J	1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	73	mg/kg	J	4	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	10800	mg/kg	D	70	70
SS-16B	6-Jun-18	11:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	17	mg/kg		0.5	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	616	mg/kg		1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.03	mg/kg	J	0.0044	0.1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	6	mg/kg		0.5	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5
SS-16B	6-Jun-18	11:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	23	mg/kg		0.5	1
SS-16B	6-Jun-18	11:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	165	mg/kg	J	4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3340	mg/kg	D	10	10
SS-17D	6-Jun-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	4.4	mg/kg	J	0.2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	55	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.1	0.2
SS-17D	6-Jun-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.7	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	30	mg/kg	J	3	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6060	mg/kg	D	60	60
SS-17D	6-Jun-18	9:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	7	mg/kg		0.4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	276	mg/kg		1	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.004	0.1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.5	mg/kg	J	0.4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-17D	6-Jun-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-17D	6-Jun-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.4	1
SS-17D	6-Jun-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	49	mg/kg	J	4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3250	mg/kg	D	10	10
SS-19	6-Jun-18	9:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	12	mg/kg		0.2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	56	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-19	6-Jun-18	9:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	8	mg/kg		0.7	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	97	mg/kg	J	3	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6460	mg/kg	D	60	60
SS-19	6-Jun-18	9:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	17	mg/kg		0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	265	mg/kg		1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.0038	0.1
SS-19	6-Jun-18	9:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4.6	mg/kg	J	0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5
SS-19	6-Jun-18	9:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.4	1
SS-19	6-Jun-18	9:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	119	mg/kg	J	4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4780	mg/kg	D	10	10
SS-13	12-Sep-18	17:05	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	4.5	mg/kg	J	0.2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Barium	SED_SIEVE_1-2mm	140	mg/kg		0.9	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.09	0.2
SS-13	12-Sep-18	17:05	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	12	mg/kg		0.6	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Copper	SED_SIEVE_1-2mm	13	mg/kg		2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6090	mg/kg	D	50	50
SS-13	12-Sep-18	17:05	S-ROUTINE	Lead	SED_SIEVE_1-2mm	9	mg/kg		0.4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	484	mg/kg		0.8	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.01	mg/kg	J	0.0033	0.1
SS-13	12-Sep-18	17:05	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	7	mg/kg		0.4	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.1	5
SS-13	12-Sep-18	17:05	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	11	mg/kg		1	1
SS-13	12-Sep-18	17:05	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	71	mg/kg		3	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4150	mg/kg	D	9	9
SS-14	12-Sep-18	16:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	6	mg/kg		0.2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	140	mg/kg		0.9	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	12-Sep-18	16:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.09	0.2
SS-14	12-Sep-18	16:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	9	mg/kg		0.6	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	16	mg/kg		2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6090	mg/kg	D	50	50
SS-14	12-Sep-18	16:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	7	mg/kg		0.4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	654	mg/kg		0.8	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.009	mg/kg	J	0.0029	0.1
SS-14	12-Sep-18	16:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	5	mg/kg		0.4	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.3	mg/kg	J	0.09	5
SS-14	12-Sep-18	16:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		1	1
SS-14	12-Sep-18	16:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	103	mg/kg		3	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2750	mg/kg	D	9	9
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	3.1	mg/kg	J	0.8	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	45	mg/kg		0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	66	mg/kg		0.9	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.09	0.2
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	5	mg/kg	J	0.6	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	233	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	12200	mg/kg	D	50	50
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	39	mg/kg		0.3	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	437	mg/kg		0.8	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.08	mg/kg	J	0.0027	0.1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	2.2	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4.2	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.6	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.9	mg/kg	J	0.09	5
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		1	1
SS-15A-2	12-Sep-18	15:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	416	mg/kg		3	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	8070	mg/kg	D	9	9
SS-15B	12-Sep-18	13:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	17	mg/kg		0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	134	mg/kg		0.8	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.19	mg/kg	J	0.08	0.2
SS-15B	12-Sep-18	13:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	15	mg/kg		0.6	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	39	mg/kg		1	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	11300	mg/kg	D	50	50
SS-15B	12-Sep-18	13:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	20	mg/kg		0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15B	12-Sep-18	13:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	274	mg/kg		0.8	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.01	mg/kg	J	0.0028	0.1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	9	mg/kg		0.3	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.3	mg/kg	J	0.09	5
SS-15B	12-Sep-18	13:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	21	mg/kg		1	1
SS-15B	12-Sep-18	13:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	125	mg/kg		3	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	9130	mg/kg	D	10	10
SS-15G	12-Sep-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	13	mg/kg		0.2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	105	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	0.2
SS-15G	12-Sep-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	11	mg/kg		0.8	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	3	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	41	mg/kg		3	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	12100	mg/kg	D	70	70
SS-15G	12-Sep-18	13:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	6	mg/kg		0.5	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	143	mg/kg		1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.01	mg/kg	J	0.0032	0.1
SS-15G	12-Sep-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	9	mg/kg		0.5	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.1	5
SS-15G	12-Sep-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	22	mg/kg		2	2
SS-15G	12-Sep-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	87	mg/kg		4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4320	mg/kg	D	10	10
SS-16B	12-Sep-18	11:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	18	mg/kg		0.2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	76	mg/kg		0.9	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.09	0.2
SS-16B	12-Sep-18	11:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.6	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	81	mg/kg		2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8550	mg/kg	D	50	50
SS-16B	12-Sep-18	11:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	25	mg/kg		0.4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	276	mg/kg		0.8	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.03	mg/kg	J	0.0032	0.1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4	mg/kg	J	0.4	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-16B	12-Sep-18	11:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	12-Sep-18	11:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	17	mg/kg		1	1
SS-16B	12-Sep-18	11:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	166	mg/kg		3	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3060	mg/kg	D	10	10
SS-17D	12-Sep-18	10:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	8	mg/kg		0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	86	mg/kg		0.9	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.09	0.2
SS-17D	12-Sep-18	10:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.6	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	57	mg/kg		2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6830	mg/kg	D	60	60
SS-17D	12-Sep-18	10:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	21	mg/kg		0.4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	363	mg/kg		0.9	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.12	mg/kg		0.0034	0.1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.9	mg/kg	J	0.4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.8	mg/kg	J	0.1	5
SS-17D	12-Sep-18	10:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		1	1
SS-17D	12-Sep-18	10:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	90	mg/kg		3	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2390	mg/kg	D	10	10
SS-19	12-Sep-18	8:40	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	8	mg/kg		0.2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Barium	SED_SIEVE_1-2mm	41	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	2.4	mg/kg		0.09	0.2
SS-19	12-Sep-18	8:40	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	5	mg/kg		0.6	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Copper	SED_SIEVE_1-2mm	43	mg/kg		2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Iron	SED_SIEVE_1-2mm	4900	mg/kg	D	60	60
SS-19	12-Sep-18	8:40	S-ROUTINE	Lead	SED_SIEVE_1-2mm	18	mg/kg		0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	222	mg/kg		0.9	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0029	0.1
SS-19	12-Sep-18	8:40	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.9	mg/kg	J	0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5
SS-19	12-Sep-18	8:40	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		1	1
SS-19	12-Sep-18	8:40	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	102	mg/kg		3	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Aluminum	SED_SIEVE_1-2mm	2800	mg/kg	D	10	10
SS-15A-2	12-Sep-18	15:00	QC-FD	Antimony	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.8	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Arsenic	SED_SIEVE_1-2mm	32	mg/kg		0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Barium	SED_SIEVE_1-2mm	78	mg/kg		0.9	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	12-Sep-18	15:00	QC-FD	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Cadmium	SED_SIEVE_1-2mm	2.7	mg/kg		0.09	0.2
SS-15A-2	12-Sep-18	15:00	QC-FD	Chromium	SED_SIEVE_1-2mm	4.4	mg/kg	J	0.6	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Cobalt	SED_SIEVE_1-2mm	<2	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Copper	SED_SIEVE_1-2mm	220	mg/kg		2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Iron	SED_SIEVE_1-2mm	8250	mg/kg	D	50	50
SS-15A-2	12-Sep-18	15:00	QC-FD	Lead	SED_SIEVE_1-2mm	77	mg/kg		0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Manganese	SED_SIEVE_1-2mm	2070	mg/kg		0.8	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Mercury	SED_SIEVE_1-2mm	0.05	mg/kg	J	0.0029	0.1
SS-15A-2	12-Sep-18	15:00	QC-FD	Molybdenum	SED_SIEVE_1-2mm	1.8	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Nickel	SED_SIEVE_1-2mm	2.5	mg/kg	J	0.4	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Silver	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.2	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Uranium-238	SED_SIEVE_1-2mm	2.3	mg/kg	J	0.1	5
SS-15A-2	12-Sep-18	15:00	QC-FD	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		1	1
SS-15A-2	12-Sep-18	15:00	QC-FD	Zinc	SED_SIEVE_1-2mm	348	mg/kg		3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3100	mg/kg	D	10	10
SS-01	13-Sep-18	16:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	3	mg/kg	J	0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	51	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	0.2
SS-01	13-Sep-18	16:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	5	mg/kg		0.8	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<3	mg/kg		3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	8	mg/kg		3	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	4140	mg/kg	D	70	70
SS-01	13-Sep-18	16:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	4.3	mg/kg	J	0.5	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	226	mg/kg		1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.004	mg/kg	J	0.0031	0.1
SS-01	13-Sep-18	16:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	1.9	mg/kg	J	0.5	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.3	mg/kg	J	0.1	5
SS-01	13-Sep-18	16:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		2	2
SS-01	13-Sep-18	16:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	24	mg/kg		4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2600	mg/kg	D	10	10
SS-05A	13-Sep-18	14:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	44	mg/kg		0.2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	66	mg/kg		1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	2	mg/kg		0.1	0.2
SS-05A	13-Sep-18	14:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3.5	mg/kg	J	0.8	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<3	mg/kg		3	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	421	mg/kg		3	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	13300	mg/kg	D	70	70
SS-05A	13-Sep-18	14:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	159	mg/kg		0.5	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	13-Sep-18	14:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	3210	mg/kg		1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.0031	0.1
SS-05A	13-Sep-18	14:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.5	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	3.7	mg/kg	J	0.2	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.8	mg/kg	J	0.1	5
SS-05A	13-Sep-18	14:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	17	mg/kg		2	2
SS-05A	13-Sep-18	14:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	1390	mg/kg		4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3170	mg/kg	D	10	10
SS-06G	13-Sep-18	13:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	18	mg/kg		0.2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	108	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<4	mg/kg		4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.8	mg/kg		0.1	0.2
SS-06G	13-Sep-18	13:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4.7	mg/kg	J	0.7	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	83	mg/kg		2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6700	mg/kg	D	60	60
SS-06G	13-Sep-18	13:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	71	mg/kg		0.4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1900	mg/kg		1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0031	0.1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	1	mg/kg	J	0.2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	3.2	mg/kg	J	0.4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	1.6	mg/kg	J	0.2	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5
SS-06G	13-Sep-18	13:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.4	1
SS-06G	13-Sep-18	13:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	280	mg/kg		3	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3160	mg/kg	D	10	10
SS-07	13-Sep-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	50	mg/kg		0.2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	55	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<4	mg/kg		4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.1	0.2
SS-07	13-Sep-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3.8	mg/kg	J	0.7	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	116	mg/kg		2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8650	mg/kg	D	60	60
SS-07	13-Sep-18	13:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	49	mg/kg		0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	787	mg/kg		1	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.08	mg/kg	J	0.0029	0.1
SS-07	13-Sep-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	6	mg/kg		0.2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-07	13-Sep-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1	mg/kg	J	0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	13-Sep-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.4	1
SS-07	13-Sep-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	279	mg/kg	D	10	10
SS-08	13-Sep-18	12:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3520	mg/kg	D	10	10
SS-08	13-Sep-18	12:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	12	mg/kg		0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	181	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<4	mg/kg		4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-08	13-Sep-18	12:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3	mg/kg	J	0.8	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	64	mg/kg		2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6640	mg/kg	D	70	70
SS-08	13-Sep-18	12:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	38	mg/kg		0.5	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	825	mg/kg		1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.05	mg/kg	J	0.0032	0.1
SS-08	13-Sep-18	12:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.7	mg/kg	J	0.5	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.7	mg/kg	J	0.2	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5
SS-08	13-Sep-18	12:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.5	1
SS-08	13-Sep-18	12:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	197	mg/kg	D	20	20
SS-10A	13-Sep-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4860	mg/kg	D	10	10
SS-10A	13-Sep-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	14	mg/kg		0.2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	247	mg/kg		1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<5	mg/kg		5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.7	mg/kg		0.1	0.2
SS-10A	13-Sep-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	3.5	mg/kg	J	0.8	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	76	mg/kg		2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6590	mg/kg	D	70	70
SS-10A	13-Sep-18	11:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	29	mg/kg		0.5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1390	mg/kg		1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.0032	0.1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.2	mg/kg	J	0.5	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.9	mg/kg	J	0.1	5
SS-10A	13-Sep-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		0.5	1
SS-10A	13-Sep-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	176	mg/kg	D	20	20
SS-11C	13-Sep-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3000	mg/kg	D	9	9
SS-11C	13-Sep-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	6	mg/kg		0.2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	76	mg/kg		0.9	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	13-Sep-18	9:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.08	0.2
SS-11C	13-Sep-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	5	mg/kg		0.6	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<2	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	30	mg/kg		2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	4470	mg/kg	D	50	50
SS-11C	13-Sep-18	9:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	7	mg/kg		0.3	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	542	mg/kg		0.8	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.009	mg/kg	J	0.0031	0.1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2.6	mg/kg	J	0.4	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.56	mg/kg	J	0.09	5
SS-11C	13-Sep-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	10	mg/kg		1	1
SS-11C	13-Sep-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	95	mg/kg		3	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	5330	mg/kg	D	10	10
SS-11D	13-Sep-18	8:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	8	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	167	mg/kg		0.9	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	1	mg/kg	J	0.9	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.2	mg/kg		0.09	0.2
SS-11D	13-Sep-18	8:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	21	mg/kg		0.6	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	18	mg/kg		2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8340	mg/kg	D	50	50
SS-11D	13-Sep-18	8:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	14	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	447	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.02	mg/kg	J	0.0029	0.1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	11	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.5	mg/kg	J	0.2	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	0.9	mg/kg	J	0.1	5
SS-11D	13-Sep-18	8:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		1	1
SS-11D	13-Sep-18	8:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	63	mg/kg		3	5
SS-11D	13-Sep-18	8:45	QC-FD	Aluminum	SED_SIEVE_1-2mm	5100	mg/kg	D	9	9
SS-11D	13-Sep-18	8:45	QC-FD	Antimony	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	QC-FD	Arsenic	SED_SIEVE_1-2mm	6	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	QC-FD	Barium	SED_SIEVE_1-2mm	153	mg/kg		0.9	5
SS-11D	13-Sep-18	8:45	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11D	13-Sep-18	8:45	QC-FD	Boron	SED_SIEVE_1-2mm	<0.9	mg/kg		0.9	5
SS-11D	13-Sep-18	8:45	QC-FD	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.08	0.2
SS-11D	13-Sep-18	8:45	QC-FD	Chromium	SED_SIEVE_1-2mm	18	mg/kg		0.6	5
SS-11D	13-Sep-18	8:45	QC-FD	Cobalt	SED_SIEVE_1-2mm	3	mg/kg	J	2	5
SS-11D	13-Sep-18	8:45	QC-FD	Copper	SED_SIEVE_1-2mm	11	mg/kg		1	5
SS-11D	13-Sep-18	8:45	QC-FD	Iron	SED_SIEVE_1-2mm	7660	mg/kg	D	50	50
SS-11D	13-Sep-18	8:45	QC-FD	Lead	SED_SIEVE_1-2mm	10	mg/kg		0.3	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11D	13-Sep-18	8:45	QC-FD	Manganese	SED_SIEVE_1-2mm	347	mg/kg		0.8	5
SS-11D	13-Sep-18	8:45	QC-FD	Mercury	SED_SIEVE_1-2mm	0.04	mg/kg	J	0.0033	0.1
SS-11D	13-Sep-18	8:45	QC-FD	Molybdenum	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-11D	13-Sep-18	8:45	QC-FD	Nickel	SED_SIEVE_1-2mm	10	mg/kg		0.4	5
SS-11D	13-Sep-18	8:45	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-11D	13-Sep-18	8:45	QC-FD	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11D	13-Sep-18	8:45	QC-FD	Uranium-238	SED_SIEVE_1-2mm	0.79	mg/kg	J	0.09	5
SS-11D	13-Sep-18	8:45	QC-FD	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		1	1
SS-11D	13-Sep-18	8:45	QC-FD	Zinc	SED_SIEVE_1-2mm	54	mg/kg		3	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2690	mg/kg	D	10	10
SS-01	29-Nov-18	17:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	4.3	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	35	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.1	0.2
SS-01	29-Nov-18	17:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	4.9	mg/kg	J	0.7	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	21	mg/kg		3	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	5390	mg/kg	D	60	60
SS-01	29-Nov-18	17:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	7	mg/kg		0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	229	mg/kg		1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.002	mg/kg	J	0.0022	0.1
SS-01	29-Nov-18	17:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.4	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	2	mg/kg	J	0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.2	mg/kg	J	0.2	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.1	mg/kg	J	0.1	5
SS-01	29-Nov-18	17:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.4	1
SS-01	29-Nov-18	17:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	59	mg/kg		4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3930	mg/kg	D	10	10
SS-05A	29-Nov-18	15:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	1	mg/kg	J	1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	44	mg/kg		0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	59	mg/kg	J	0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.5	mg/kg		0.1	0.2
SS-05A	29-Nov-18	15:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	10	mg/kg		0.7	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	304	mg/kg	J	3	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	27500	mg/kg	D	70	70
SS-05A	29-Nov-18	15:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	71	mg/kg	J	0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	368	mg/kg		1	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.15	mg/kg		0.0022	0.1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	2.1	mg/kg	J	0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	4.3	mg/kg	J	0.5	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	1	mg/kg	J	0.2	5
SS-05A	29-Nov-18	15:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.2	mg/kg	J	0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-05A	29-Nov-18	15:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	19	mg/kg		0.4	1
SS-05A	29-Nov-18	15:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	1730	mg/kg		4	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	10300	mg/kg	D	10	10
SS-15G	29-Nov-18	14:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	31	mg/kg		0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	142	mg/kg		0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	2	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.2	mg/kg		0.1	0.2
SS-15G	29-Nov-18	14:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	14	mg/kg		0.8	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	4	mg/kg	J	1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	78	mg/kg		4	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	16000	mg/kg	D	70	70
SS-15G	29-Nov-18	14:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	18	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	156	mg/kg		1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	0.009	mg/kg	J	0.0022	0.1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	9	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	0.3	mg/kg	J	0.2	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	1.3	mg/kg	J	0.1	5
SS-15G	29-Nov-18	14:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	30	mg/kg		0.5	1
SS-15G	29-Nov-18	14:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	263	mg/kg		4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3970	mg/kg	D	10	10
SS-06G	29-Nov-18	14:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	30	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	111	mg/kg	J	0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.9	mg/kg		0.1	0.2
SS-06G	29-Nov-18	14:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	145	mg/kg	J	4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	9210	mg/kg	D	70	70
SS-06G	29-Nov-18	14:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	69	mg/kg	J	0.5	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1960	mg/kg		1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0021	mg/kg		0.0021	0.1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-06G	29-Nov-18	14:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	16	mg/kg		0.5	1
SS-06G	29-Nov-18	14:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	328	mg/kg		4	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3810	mg/kg	D	10	10
SS-07	29-Nov-18	13:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	24	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	292	mg/kg	J	0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-07	29-Nov-18	13:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.8	mg/kg		0.1	0.2
SS-07	29-Nov-18	13:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.7	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	137	mg/kg	J	3	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	8770	mg/kg	D	70	70
SS-07	29-Nov-18	13:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	343	mg/kg	J	0.4	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	1320	mg/kg		1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.002	mg/kg		0.002	0.1
SS-07	29-Nov-18	13:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-07	29-Nov-18	13:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	17	mg/kg		0.5	1
SS-07	29-Nov-18	13:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	324	mg/kg		4	5
SS-07	29-Nov-18	13:45	QC-FD	Aluminum	SED_SIEVE_1-2mm	3690	mg/kg	D	10	10
SS-07	29-Nov-18	13:45	QC-FD	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Arsenic	SED_SIEVE_1-2mm	18	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Barium	SED_SIEVE_1-2mm	61	mg/kg	J	0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	QC-FD	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-07	29-Nov-18	13:45	QC-FD	Chromium	SED_SIEVE_1-2mm	16	mg/kg		0.7	5
SS-07	29-Nov-18	13:45	QC-FD	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Copper	SED_SIEVE_1-2mm	77	mg/kg	J	3	5
SS-07	29-Nov-18	13:45	QC-FD	Iron	SED_SIEVE_1-2mm	8480	mg/kg	D	70	70
SS-07	29-Nov-18	13:45	QC-FD	Lead	SED_SIEVE_1-2mm	45	mg/kg	J	0.4	5
SS-07	29-Nov-18	13:45	QC-FD	Manganese	SED_SIEVE_1-2mm	981	mg/kg		1	5
SS-07	29-Nov-18	13:45	QC-FD	Mercury	SED_SIEVE_1-2mm	<0.002	mg/kg		0.002	0.1
SS-07	29-Nov-18	13:45	QC-FD	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Nickel	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-07	29-Nov-18	13:45	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-07	29-Nov-18	13:45	QC-FD	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-07	29-Nov-18	13:45	QC-FD	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-07	29-Nov-18	13:45	QC-FD	Vanadium	SED_SIEVE_1-2mm	23	mg/kg		0.4	1
SS-07	29-Nov-18	13:45	QC-FD	Zinc	SED_SIEVE_1-2mm	268	mg/kg		4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3250	mg/kg	D	10	10
SS-08	29-Nov-18	12:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	34	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	65	mg/kg	J	0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.6	mg/kg		0.1	0.2
SS-08	29-Nov-18	12:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	82	mg/kg	J	3	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	7770	mg/kg	D	70	70
SS-08	29-Nov-18	12:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	40	mg/kg	J	0.5	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-08	29-Nov-18	12:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	971	mg/kg		1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0022	mg/kg		0.0022	0.1
SS-08	29-Nov-18	12:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-08	29-Nov-18	12:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.5	1
SS-08	29-Nov-18	12:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	203	mg/kg		4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	9370	mg/kg	D	20	20
SS-10A	29-Nov-18	11:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	10	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	106	mg/kg	J	0.2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.7	mg/kg		0.1	0.2
SS-10A	29-Nov-18	11:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	103	mg/kg	J	4	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	9640	mg/kg	D	90	90
SS-10A	29-Nov-18	11:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	19	mg/kg		0.6	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	901	mg/kg		1	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0027	mg/kg		0.0027	0.1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.6	mg/kg		0.6	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-10A	29-Nov-18	11:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		0.6	1
SS-10A	29-Nov-18	11:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	309	mg/kg		5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4870	mg/kg	D	10	10
SS-11C	29-Nov-18	9:45	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Barium	SED_SIEVE_1-2mm	78	mg/kg	J	0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.1	0.2
SS-11C	29-Nov-18	9:45	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	6	mg/kg		0.8	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Copper	SED_SIEVE_1-2mm	250	mg/kg	J	3	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Iron	SED_SIEVE_1-2mm	5760	mg/kg	D	70	70
SS-11C	29-Nov-18	9:45	S-ROUTINE	Lead	SED_SIEVE_1-2mm	79	mg/kg	J	0.5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	371	mg/kg		1	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0019	mg/kg		0.0019	0.1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11C	29-Nov-18	9:45	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-11C	29-Nov-18	9:45	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.5	1
SS-11C	29-Nov-18	9:45	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	98	mg/kg		4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	7410	mg/kg	D	10	10
SS-11D	29-Nov-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	8	mg/kg		0.3	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	237	mg/kg	J	0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.3	mg/kg		0.1	0.2
SS-11D	29-Nov-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	21	mg/kg		0.8	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	18	mg/kg		4	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	10500	mg/kg	D	70	70
SS-11D	29-Nov-18	9:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	24	mg/kg		0.5	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	366	mg/kg		1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0021	mg/kg		0.0021	0.1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	11	mg/kg		0.5	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-11D	29-Nov-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	17	mg/kg		0.5	1
SS-11D	29-Nov-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	86	mg/kg		4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	4510	mg/kg	D	10	10
SS-13	28-Nov-18	17:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	95	mg/kg		0.2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	0.2
SS-13	28-Nov-18	17:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	10	mg/kg		0.8	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	13	mg/kg		4	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6780	mg/kg	D	70	70
SS-13	28-Nov-18	17:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	6	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	193	mg/kg		1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0019	mg/kg		0.0019	0.1
SS-13	28-Nov-18	17:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	6	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-13	28-Nov-18	17:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.5	1
SS-13	28-Nov-18	17:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	70	mg/kg		4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3790	mg/kg	D	10	10
SS-14	28-Nov-18	16:00	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Barium	SED_SIEVE_1-2mm	84	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-14	28-Nov-18	16:00	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.1	0.2
SS-14	28-Nov-18	16:00	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	9	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Copper	SED_SIEVE_1-2mm	18	mg/kg		3	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6440	mg/kg	D	70	70
SS-14	28-Nov-18	16:00	S-ROUTINE	Lead	SED_SIEVE_1-2mm	9	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	406	mg/kg		1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0021	mg/kg		0.0021	0.1
SS-14	28-Nov-18	16:00	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-14	28-Nov-18	16:00	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	12	mg/kg		0.5	1
SS-14	28-Nov-18	16:00	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	112	mg/kg		4	5
SS-14	28-Nov-18	16:00	QC-FD	Aluminum	SED_SIEVE_1-2mm	4670	mg/kg	D	10	10
SS-14	28-Nov-18	16:00	QC-FD	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Arsenic	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Barium	SED_SIEVE_1-2mm	115	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	QC-FD	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.1	0.2
SS-14	28-Nov-18	16:00	QC-FD	Chromium	SED_SIEVE_1-2mm	10	mg/kg		0.8	5
SS-14	28-Nov-18	16:00	QC-FD	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Copper	SED_SIEVE_1-2mm	15	mg/kg		3	5
SS-14	28-Nov-18	16:00	QC-FD	Iron	SED_SIEVE_1-2mm	6590	mg/kg	D	70	70
SS-14	28-Nov-18	16:00	QC-FD	Lead	SED_SIEVE_1-2mm	7	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	QC-FD	Manganese	SED_SIEVE_1-2mm	433	mg/kg		1	5
SS-14	28-Nov-18	16:00	QC-FD	Mercury	SED_SIEVE_1-2mm	<0.0019	mg/kg		0.0019	0.1
SS-14	28-Nov-18	16:00	QC-FD	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Nickel	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-14	28-Nov-18	16:00	QC-FD	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-14	28-Nov-18	16:00	QC-FD	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-14	28-Nov-18	16:00	QC-FD	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-14	28-Nov-18	16:00	QC-FD	Vanadium	SED_SIEVE_1-2mm	13	mg/kg		0.5	1
SS-14	28-Nov-18	16:00	QC-FD	Zinc	SED_SIEVE_1-2mm	122	mg/kg		4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3890	mg/kg	D	10	10
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	35	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	100	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	1.1	mg/kg		0.1	0.2
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	7	mg/kg		0.8	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	163	mg/kg		3	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	10300	mg/kg	D	70	70
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	39	mg/kg		0.5	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	393	mg/kg		1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0018	mg/kg		0.0018	0.1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	15	mg/kg		0.5	1
SS-15A-2	28-Nov-18	14:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	433	mg/kg		4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	8040	mg/kg	D	10	10
SS-15B	28-Nov-18	13:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	14	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	120	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.3	mg/kg		0.3	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	0.2
SS-15B	28-Nov-18	13:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	12	mg/kg		0.7	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	31	mg/kg		3	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	10900	mg/kg	D	60	60
SS-15B	28-Nov-18	13:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	14	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	268	mg/kg		1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0022	mg/kg		0.0022	0.1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	8	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-15B	28-Nov-18	13:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	20	mg/kg		0.4	1
SS-15B	28-Nov-18	13:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	118	mg/kg		4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	6030	mg/kg	D	10	10
SS-16B	28-Nov-18	11:30	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	17	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Barium	SED_SIEVE_1-2mm	140	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.5	mg/kg		0.1	0.2
SS-16B	28-Nov-18	11:30	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	9	mg/kg		0.8	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Copper	SED_SIEVE_1-2mm	85	mg/kg		3	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Iron	SED_SIEVE_1-2mm	10100	mg/kg	D	70	70
SS-16B	28-Nov-18	11:30	S-ROUTINE	Lead	SED_SIEVE_1-2mm	24	mg/kg		0.5	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	581	mg/kg		1	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0026	mg/kg		0.0026	0.1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	5	mg/kg		0.5	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-16B	28-Nov-18	11:30	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Size Fraction	Result Value	Result Value Unit	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
SS-16B	28-Nov-18	11:30	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	18	mg/kg		0.5	1
SS-16B	28-Nov-18	11:30	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	202	mg/kg		4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	2900	mg/kg	D	10	10
SS-17D	28-Nov-18	10:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	9	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	30	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	0.2
SS-17D	28-Nov-18	10:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	<0.8	mg/kg		0.8	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	46	mg/kg		3	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6280	mg/kg	D	70	70
SS-17D	28-Nov-18	10:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	21	mg/kg		0.5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	173	mg/kg		1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0024	mg/kg		0.0024	0.1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-17D	28-Nov-18	10:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.5	1
SS-17D	28-Nov-18	10:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	116	mg/kg		4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Aluminum	SED_SIEVE_1-2mm	3460	mg/kg	D	10	10
SS-19	28-Nov-18	9:15	S-ROUTINE	Antimony	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Arsenic	SED_SIEVE_1-2mm	11	mg/kg		0.3	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Barium	SED_SIEVE_1-2mm	58	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Beryllium	SED_SIEVE_1-2mm	<0.4	mg/kg		0.4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Boron	SED_SIEVE_1-2mm	<1	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Cadmium	SED_SIEVE_1-2mm	0.4	mg/kg		0.1	0.2
SS-19	28-Nov-18	9:15	S-ROUTINE	Chromium	SED_SIEVE_1-2mm	7	mg/kg		0.8	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Cobalt	SED_SIEVE_1-2mm	<3	mg/kg		3	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Copper	SED_SIEVE_1-2mm	45	mg/kg		4	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Iron	SED_SIEVE_1-2mm	6640	mg/kg	D	70	70
SS-19	28-Nov-18	9:15	S-ROUTINE	Lead	SED_SIEVE_1-2mm	17	mg/kg		0.5	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Manganese	SED_SIEVE_1-2mm	303	mg/kg		1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Mercury	SED_SIEVE_1-2mm	<0.0025	mg/kg		0.0025	0.1
SS-19	28-Nov-18	9:15	S-ROUTINE	Molybdenum	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Nickel	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Selenium	SED_SIEVE_1-2mm	<0.5	mg/kg		0.5	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Silver	SED_SIEVE_1-2mm	<0.2	mg/kg		0.2	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Uranium-238	SED_SIEVE_1-2mm	<0.1	mg/kg		0.1	5
SS-19	28-Nov-18	9:15	S-ROUTINE	Vanadium	SED_SIEVE_1-2mm	14	mg/kg		0.5	1
SS-19	28-Nov-18	9:15	S-ROUTINE	Zinc	SED_SIEVE_1-2mm	148	mg/kg		4	5

APPENDIX E

Groundwater Data

Table E-1. Groundwater sample results in the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2D	12-Jul-18	14:25	QC-FB	Alkalinity, total	as CaCO3	Total	2	J	2	4
MW-2D	12-Jul-18	14:25	QC-FB	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2D	12-Jul-18	14:25	QC-FB	Antimony		Dissolved	<0.00009		0.00009	0.0005
MW-2D	12-Jul-18	14:25	QC-FB	Arsenic		Dissolved	<0.00004		0.00004	0.001
MW-2D	12-Jul-18	14:25	QC-FB	Barium		Dissolved	<0.00002		0.00002	0.003
MW-2D	12-Jul-18	14:25	QC-FB	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2D	12-Jul-18	14:25	QC-FB	Bicarbonate	as HCO3	Total	2	J	2	4
MW-2D	12-Jul-18	14:25	QC-FB	Boron		Dissolved	0.007	J	0.003	0.1
MW-2D	12-Jul-18	14:25	QC-FB	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2D	12-Jul-18	14:25	QC-FB	Calcium		Dissolved	<0.1		0.1	1
MW-2D	12-Jul-18	14:25	QC-FB	Chloride		Total	<0.009		0.009	1
MW-2D	12-Jul-18	14:25	QC-FB	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2D	12-Jul-18	14:25	QC-FB	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2D	12-Jul-18	14:25	QC-FB	Copper		Dissolved	0.0002	J	0.0001	0.001
MW-2D	12-Jul-18	14:25	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1		1	1
MW-2D	12-Jul-18	14:25	QC-FB	Iron		Dissolved	<0.002		0.002	0.02
MW-2D	12-Jul-18	14:25	QC-FB	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2D	12-Jul-18	14:25	QC-FB	Magnesium		Dissolved	<0.004		0.004	1
MW-2D	12-Jul-18	14:25	QC-FB	Manganese		Dissolved	<0.0003		0.0003	0.001
MW-2D	12-Jul-18	14:25	QC-FB	Mercury		Dissolved	<0.000002		0.000002	0.000005
MW-2D	12-Jul-18	14:25	QC-FB	Molybdenum		Dissolved	<0.00002		0.00002	0.005
MW-2D	12-Jul-18	14:25	QC-FB	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2D	12-Jul-18	14:25	QC-FB	Potassium		Dissolved	<0.01		0.01	1
MW-2D	12-Jul-18	14:25	QC-FB	Selenium		Dissolved	<0.00002		0.00002	0.001
MW-2D	12-Jul-18	14:25	QC-FB	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2D	12-Jul-18	14:25	QC-FB	Sodium		Dissolved	0.04	J	0.01	1
MW-2D	12-Jul-18	14:25	QC-FB	Sulfate		Total	0.02	J	0.01	1
MW-2D	12-Jul-18	14:25	QC-FB	Uranium-238		Dissolved	0.00002	J	0.00001	0.0002
MW-2D	12-Jul-18	14:25	QC-FB	Vanadium		Dissolved	<0.00007		0.00007	0.1
MW-2D	12-Jul-18	14:25	QC-FB	Zinc		Dissolved	0.0005	J	0.0003	0.008
MW-2C	12-Jul-18	13:15	QC-FD	Alkalinity, total	as CaCO3	Total	120		2	4
MW-2C	12-Jul-18	13:15	QC-FD	Aluminum		Dissolved	0.006	J	0.003	0.009
MW-2C	12-Jul-18	13:15	QC-FD	Antimony		Dissolved	0.00015	J	0.00009	0.0005
MW-2C	12-Jul-18	13:15	QC-FD	Arsenic		Dissolved	0.007		0.00004	0.001
MW-2C	12-Jul-18	13:15	QC-FD	Barium		Dissolved	0.023		0.00002	0.003
MW-2C	12-Jul-18	13:15	QC-FD	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2C	12-Jul-18	13:15	QC-FD	Bicarbonate	as HCO3	Total	140		2	4
MW-2C	12-Jul-18	13:15	QC-FD	Boron		Dissolved	0.078	J	0.003	0.1
MW-2C	12-Jul-18	13:15	QC-FD	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2C	12-Jul-18	13:15	QC-FD	Calcium		Dissolved	88		0.07	1
MW-2C	12-Jul-18	13:15	QC-FD	Chloride		Total	34		0.009	1
MW-2C	12-Jul-18	13:15	QC-FD	Chromium		Dissolved	<0.0002		0.0002	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2C	12-Jul-18	13:15	QC-FD	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2C	12-Jul-18	13:15	QC-FD	Copper		Dissolved	0.0005	J	0.0001	0.001
MW-2C	12-Jul-18	13:15	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	273		1	1
MW-2C	12-Jul-18	13:15	QC-FD	Iron		Dissolved	0.03		0.002	0.02
MW-2C	12-Jul-18	13:15	QC-FD	Lead		Dissolved	0.00003	J	0.00003	0.0003
MW-2C	12-Jul-18	13:15	QC-FD	Magnesium		Dissolved	18		0.1	1
MW-2C	12-Jul-18	13:15	QC-FD	Manganese		Dissolved	0.0006	J	0.0003	0.001
MW-2C	12-Jul-18	13:15	QC-FD	Mercury		Dissolved	<0.000002		0.000002	0.000005
MW-2C	12-Jul-18	13:15	QC-FD	Molybdenum		Dissolved	0.0018	J	0.00002	0.005
MW-2C	12-Jul-18	13:15	QC-FD	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2C	12-Jul-18	13:15	QC-FD	Potassium		Dissolved	4		0.06	1
MW-2C	12-Jul-18	13:15	QC-FD	Selenium		Dissolved	0.003		0.00002	0.001
MW-2C	12-Jul-18	13:15	QC-FD	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2C	12-Jul-18	13:15	QC-FD	Sodium		Dissolved	41		0.8	1
MW-2C	12-Jul-18	13:15	QC-FD	Sulfate		Total	229		0.01	1
MW-2C	12-Jul-18	13:15	QC-FD	Uranium-238		Dissolved	0.0147		0.00001	0.0002
MW-2C	12-Jul-18	13:15	QC-FD	Vanadium		Dissolved	0.0025	J	0.00007	0.1
MW-2C	12-Jul-18	13:15	QC-FD	Zinc		Dissolved	0.0013	J	0.0003	0.008
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120		2	4
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Barium		Dissolved	0.029		0.00002	0.003
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Bicarbonate	as HCO3	Total	150		2	4
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Boron		Dissolved	0.052	J	0.003	0.1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Calcium		Dissolved	75		0.07	1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Chloride		Total	21		0.009	1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Copper		Dissolved	0.0003	J	0.0001	0.001
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	251		1	1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Magnesium		Dissolved	15		0.1	1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Manganese		Dissolved	0.0006	J	0.0003	0.001
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Molybdenum		Dissolved	0.0039	J	0.00002	0.005
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Potassium		Dissolved	4		0.06	1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Selenium		Dissolved	0.005		0.00002	0.001
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Sodium		Dissolved	29		0.8	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Sulfate		Total	186		0.01	1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Uranium-238		Dissolved	0.0304		0.00001	0.0002
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Vanadium		Dissolved	0.0026	J	0.00007	0.1
1GW-1056	12-Jul-18	16:05	S-ROUTINE	Zinc		Dissolved	0.0007	J	0.0003	0.008
LYP-07	12-Jul-18	16:20	S-ROUTINE	Alkalinity, total	as CaCO3	Total	220		2	4
LYP-07	12-Jul-18	16:20	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYP-07	12-Jul-18	16:20	S-ROUTINE	Antimony		Dissolved	0.0012		0.00009	0.0005
LYP-07	12-Jul-18	16:20	S-ROUTINE	Arsenic		Dissolved	0.011		0.00004	0.001
LYP-07	12-Jul-18	16:20	S-ROUTINE	Barium		Dissolved	0.063		0.00005	0.003
LYP-07	12-Jul-18	16:20	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYP-07	12-Jul-18	16:20	S-ROUTINE	Bicarbonate	as HCO3	Total	270		2	4
LYP-07	12-Jul-18	16:20	S-ROUTINE	Boron		Dissolved	0.049	J	0.006	0.1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYP-07	12-Jul-18	16:20	S-ROUTINE	Calcium		Dissolved	102		0.07	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Chloride		Total	29		0.009	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
LYP-07	12-Jul-18	16:20	S-ROUTINE	Cobalt		Dissolved	0.00032	J	0.00009	0.01
LYP-07	12-Jul-18	16:20	S-ROUTINE	Copper		Dissolved	0.0003	J	0.0001	0.001
LYP-07	12-Jul-18	16:20	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	327		1	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Iron		Dissolved	<0.01		0.01	0.02
LYP-07	12-Jul-18	16:20	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
LYP-07	12-Jul-18	16:20	S-ROUTINE	Magnesium		Dissolved	18		0.1	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Manganese		Dissolved	0.983		0.0003	0.001
LYP-07	12-Jul-18	16:20	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYP-07	12-Jul-18	16:20	S-ROUTINE	Molybdenum		Dissolved	0.01		0.00002	0.005
LYP-07	12-Jul-18	16:20	S-ROUTINE	Nickel		Dissolved	0.0008	J	0.0002	0.002
LYP-07	12-Jul-18	16:20	S-ROUTINE	Potassium		Dissolved	7		0.06	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Selenium		Dissolved	0.002		0.00002	0.001
LYP-07	12-Jul-18	16:20	S-ROUTINE	Silver		Dissolved	<0.00005		0.00005	0.0002
LYP-07	12-Jul-18	16:20	S-ROUTINE	Sodium		Dissolved	35		0.02	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Sulfate		Total	150		0.01	1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Uranium-238		Dissolved	0.0818		0.00001	0.0002
LYP-07	12-Jul-18	16:20	S-ROUTINE	Vanadium		Dissolved	0.0017	J	0.00007	0.1
LYP-07	12-Jul-18	16:20	S-ROUTINE	Zinc		Dissolved	0.0009	J	0.0003	0.008
MW-2A	12-Jul-18	15:35	S-ROUTINE	Alkalinity, total	as CaCO3	Total	130		2	4
MW-2A	12-Jul-18	15:35	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2A	12-Jul-18	15:35	S-ROUTINE	Antimony		Dissolved	0.0006		0.00009	0.0005
MW-2A	12-Jul-18	15:35	S-ROUTINE	Arsenic		Dissolved	0.012		0.00004	0.001
MW-2A	12-Jul-18	15:35	S-ROUTINE	Barium		Dissolved	0.016		0.00002	0.003
MW-2A	12-Jul-18	15:35	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2A	12-Jul-18	15:35	S-ROUTINE	Bicarbonate	as HCO3	Total	160		2	4
MW-2A	12-Jul-18	15:35	S-ROUTINE	Boron		Dissolved	0.033	J	0.003	0.1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Cadmium		Dissolved	0.00004		0.00003	0.00003
MW-2A	12-Jul-18	15:35	S-ROUTINE	Calcium		Dissolved	91		0.07	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2A	12-Jul-18	15:35	S-ROUTINE	Chloride		Total	5		0.009	1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2A	12-Jul-18	15:35	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2A	12-Jul-18	15:35	S-ROUTINE	Copper		Dissolved	0.0005	J	0.0001	0.001
MW-2A	12-Jul-18	15:35	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	275		1	1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Iron		Dissolved	0.002	J	0.002	0.02
MW-2A	12-Jul-18	15:35	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2A	12-Jul-18	15:35	S-ROUTINE	Magnesium		Dissolved	12		0.1	1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Manganese		Dissolved	0.021		0.0003	0.001
MW-2A	12-Jul-18	15:35	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
MW-2A	12-Jul-18	15:35	S-ROUTINE	Molybdenum		Dissolved	0.009		0.00002	0.005
MW-2A	12-Jul-18	15:35	S-ROUTINE	Nickel		Dissolved	0.0005	J	0.0002	0.002
MW-2A	12-Jul-18	15:35	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Selenium		Dissolved	0.004		0.00002	0.001
MW-2A	12-Jul-18	15:35	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2A	12-Jul-18	15:35	S-ROUTINE	Sodium		Dissolved	28		0.8	1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Sulfate		Total	210		0.01	1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Uranium-238		Dissolved	0.0465		0.00001	0.0002
MW-2A	12-Jul-18	15:35	S-ROUTINE	Vanadium		Dissolved	0.0017	J	0.00007	0.1
MW-2A	12-Jul-18	15:35	S-ROUTINE	Zinc		Dissolved	0.016		0.0003	0.008
MW-2B	12-Jul-18	12:25	S-ROUTINE	Alkalinity, total	as CaCO3	Total	85		2	4
MW-2B	12-Jul-18	12:25	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2B	12-Jul-18	12:25	S-ROUTINE	Antimony		Dissolved	0.0002	J	0.00009	0.0005
MW-2B	12-Jul-18	12:25	S-ROUTINE	Arsenic		Dissolved	0.01		0.00004	0.001
MW-2B	12-Jul-18	12:25	S-ROUTINE	Barium		Dissolved	0.034		0.00002	0.003
MW-2B	12-Jul-18	12:25	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2B	12-Jul-18	12:25	S-ROUTINE	Bicarbonate	as HCO3	Total	100		2	4
MW-2B	12-Jul-18	12:25	S-ROUTINE	Boron		Dissolved	0.049	J	0.003	0.1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2B	12-Jul-18	12:25	S-ROUTINE	Calcium		Dissolved	82		0.07	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Chloride		Total	32		0.009	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2B	12-Jul-18	12:25	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2B	12-Jul-18	12:25	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
MW-2B	12-Jul-18	12:25	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	266		1	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2B	12-Jul-18	12:25	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2B	12-Jul-18	12:25	S-ROUTINE	Magnesium		Dissolved	20		0.1	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
MW-2B	12-Jul-18	12:25	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
MW-2B	12-Jul-18	12:25	S-ROUTINE	Molybdenum		Dissolved	0.0022	J	0.00002	0.005
MW-2B	12-Jul-18	12:25	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2B	12-Jul-18	12:25	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Selenium		Dissolved	0.003		0.00002	0.001

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2B	12-Jul-18	12:25	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2B	12-Jul-18	12:25	S-ROUTINE	Sodium		Dissolved	29		0.8	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Sulfate		Total	222		0.01	1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Uranium-238		Dissolved	0.0071		0.00001	0.0002
MW-2B	12-Jul-18	12:25	S-ROUTINE	Vanadium		Dissolved	0.0024	J	0.00007	0.1
MW-2B	12-Jul-18	12:25	S-ROUTINE	Zinc		Dissolved	0.0014	J	0.0003	0.008
MW-2C	12-Jul-18	13:15	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120		2	4
MW-2C	12-Jul-18	13:15	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2C	12-Jul-18	13:15	S-ROUTINE	Antimony		Dissolved	0.00014	J	0.00009	0.0005
MW-2C	12-Jul-18	13:15	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
MW-2C	12-Jul-18	13:15	S-ROUTINE	Barium		Dissolved	0.023		0.00002	0.003
MW-2C	12-Jul-18	13:15	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2C	12-Jul-18	13:15	S-ROUTINE	Bicarbonate	as HCO3	Total	140		2	4
MW-2C	12-Jul-18	13:15	S-ROUTINE	Boron		Dissolved	0.076	J	0.003	0.1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2C	12-Jul-18	13:15	S-ROUTINE	Calcium		Dissolved	91		0.07	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Chloride		Total	34		0.009	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2C	12-Jul-18	13:15	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2C	12-Jul-18	13:15	S-ROUTINE	Copper		Dissolved	0.0006	J	0.0001	0.001
MW-2C	12-Jul-18	13:15	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	300		1	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2C	12-Jul-18	13:15	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2C	12-Jul-18	13:15	S-ROUTINE	Magnesium		Dissolved	18		0.1	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Manganese		Dissolved	0.0004	J	0.0003	0.001
MW-2C	12-Jul-18	13:15	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
MW-2C	12-Jul-18	13:15	S-ROUTINE	Molybdenum		Dissolved	0.0019	J	0.00002	0.005
MW-2C	12-Jul-18	13:15	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2C	12-Jul-18	13:15	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Selenium		Dissolved	0.003		0.00002	0.001
MW-2C	12-Jul-18	13:15	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2C	12-Jul-18	13:15	S-ROUTINE	Sodium		Dissolved	41		0.8	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Sulfate		Total	229		0.01	1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Uranium-238		Dissolved	0.0148		0.00001	0.0002
MW-2C	12-Jul-18	13:15	S-ROUTINE	Vanadium		Dissolved	0.0025	J	0.00007	0.1
MW-2C	12-Jul-18	13:15	S-ROUTINE	Zinc		Dissolved	0.0027	J	0.0003	0.008
MW-2D	12-Jul-18	14:10	S-ROUTINE	Alkalinity, total	as CaCO3	Total	170		2	4
MW-2D	12-Jul-18	14:10	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2D	12-Jul-18	14:10	S-ROUTINE	Antimony		Dissolved	0.00014	J	0.00009	0.0005
MW-2D	12-Jul-18	14:10	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
MW-2D	12-Jul-18	14:10	S-ROUTINE	Barium		Dissolved	0.041		0.00002	0.003
MW-2D	12-Jul-18	14:10	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2D	12-Jul-18	14:10	S-ROUTINE	Bicarbonate	as HCO3	Total	200		2	4
MW-2D	12-Jul-18	14:10	S-ROUTINE	Boron		Dissolved	0.058	J	0.003	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2D	12-Jul-18	14:10	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2D	12-Jul-18	14:10	S-ROUTINE	Calcium		Dissolved	101		0.07	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Chloride		Total	32		0.009	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2D	12-Jul-18	14:10	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2D	12-Jul-18	14:10	S-ROUTINE	Copper		Dissolved	0.0006	J	0.0001	0.001
MW-2D	12-Jul-18	14:10	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	331		1	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2D	12-Jul-18	14:10	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2D	12-Jul-18	14:10	S-ROUTINE	Magnesium		Dissolved	19		0.1	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Manganese		Dissolved	0.0006	J	0.0003	0.001
MW-2D	12-Jul-18	14:10	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
MW-2D	12-Jul-18	14:10	S-ROUTINE	Molybdenum		Dissolved	0.005		0.00002	0.005
MW-2D	12-Jul-18	14:10	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2D	12-Jul-18	14:10	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Selenium		Dissolved	0.005		0.00002	0.001
MW-2D	12-Jul-18	14:10	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2D	12-Jul-18	14:10	S-ROUTINE	Sodium		Dissolved	29		0.8	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Sulfate		Total	201		0.01	1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Uranium-238		Dissolved	0.0593		0.00001	0.0002
MW-2D	12-Jul-18	14:10	S-ROUTINE	Vanadium		Dissolved	0.0027	J	0.00007	0.1
MW-2D	12-Jul-18	14:10	S-ROUTINE	Zinc		Dissolved	0.0013	J	0.0003	0.008
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Antimony		Dissolved	0.00015	J	0.00009	0.0005
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Barium		Dissolved	0.075		0.00002	0.003
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Boron		Dissolved	0.038	J	0.006	0.1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Calcium		Dissolved	61		0.07	1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Copper		Dissolved	0.0003	J	0.0001	0.001
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Magnesium		Dissolved	14		0.1	1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Manganese		Dissolved	0.0003	J	0.0003	0.001
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Molybdenum		Dissolved	0.013		0.00002	0.005
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Nickel		Dissolved	0.0003	J	0.0002	0.002
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Potassium		Dissolved	5		0.06	1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Selenium		Dissolved	0.001		0.00002	0.001
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Sodium		Dissolved	40		0.02	1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Uranium-238		Dissolved	0.0072		0.00001	0.0002
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Vanadium		Dissolved	0.0047	J	0.00007	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Zinc		Dissolved	0.0019	J	0.0003	0.008
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Mercury		Dissolved	0.0000018	J	0.000001	0.000005
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Alkalinity, total	as CaCO3	Total	140		2	4
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Bicarbonate	as HCO3	Total	170		2	4
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	204		1	1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Chloride		Total	39		0.009	1
GW-RK-BG	3-Oct-18	10:17	S-ROUTINE	Sulfate		Total	120		0.01	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	41		2	4
MW-10	3-Oct-18	9:30	S-ROUTINE	Bicarbonate	as HCO3	Total	50		2	4
MW-10	3-Oct-18	9:30	S-ROUTINE	Aluminum		Dissolved	0.079		0.003	0.009
MW-10	3-Oct-18	9:30	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
MW-10	3-Oct-18	9:30	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
MW-10	3-Oct-18	9:30	S-ROUTINE	Barium		Dissolved	0.021		0.00002	0.003
MW-10	3-Oct-18	9:30	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-10	3-Oct-18	9:30	S-ROUTINE	Boron		Dissolved	0.096	J	0.006	0.1
MW-10	3-Oct-18	9:30	S-ROUTINE	Cadmium		Dissolved	0.00316		0.00003	0.00003
MW-10	3-Oct-18	9:30	S-ROUTINE	Calcium		Dissolved	61		0.07	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-10	3-Oct-18	9:30	S-ROUTINE	Cobalt		Dissolved	0.02		0.00009	0.01
MW-10	3-Oct-18	9:30	S-ROUTINE	Copper		Dissolved	0.006		0.0001	0.001
MW-10	3-Oct-18	9:30	S-ROUTINE	Iron		Dissolved	12.7		0.01	0.02
MW-10	3-Oct-18	9:30	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-10	3-Oct-18	9:30	S-ROUTINE	Magnesium		Dissolved	15		0.1	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Manganese		Dissolved	12.7	D	0.002	0.002
MW-10	3-Oct-18	9:30	S-ROUTINE	Molybdenum		Dissolved	0.0011	J	0.00002	0.005
MW-10	3-Oct-18	9:30	S-ROUTINE	Nickel		Dissolved	0.01		0.0002	0.002
MW-10	3-Oct-18	9:30	S-ROUTINE	Potassium		Dissolved	6		0.06	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Selenium		Dissolved	0.00003	J	0.00002	0.001
MW-10	3-Oct-18	9:30	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-10	3-Oct-18	9:30	S-ROUTINE	Sodium		Dissolved	37		0.02	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Uranium-238		Dissolved	0.0008		0.00001	0.0002
MW-10	3-Oct-18	9:30	S-ROUTINE	Vanadium		Dissolved	<0.00007		0.00007	0.1
MW-10	3-Oct-18	9:30	S-ROUTINE	Zinc		Dissolved	4.67		0.003	0.008
MW-10	3-Oct-18	9:30	S-ROUTINE	Mercury		Dissolved	0.0000015	J	0.000001	0.000005
MW-10	3-Oct-18	9:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	215		1	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Chloride		Total	58		0.009	1
MW-10	3-Oct-18	9:30	S-ROUTINE	Sulfate		Total	254		0.01	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Alkalinity, total	as CaCO3	Total	180		2	4
MW-01	3-Oct-18	8:35	S-ROUTINE	Bicarbonate	as HCO3	Total	220		2	4
MW-01	3-Oct-18	8:35	S-ROUTINE	Aluminum		Dissolved	0.008	J	0.003	0.009
MW-01	3-Oct-18	8:35	S-ROUTINE	Antimony		Dissolved	0.00031	J	0.00009	0.0005
MW-01	3-Oct-18	8:35	S-ROUTINE	Arsenic		Dissolved	0.012		0.00004	0.001
MW-01	3-Oct-18	8:35	S-ROUTINE	Barium		Dissolved	0.022		0.00002	0.003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-01	3-Oct-18	8:35	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-01	3-Oct-18	8:35	S-ROUTINE	Boron		Dissolved	0.1		0.006	0.1
MW-01	3-Oct-18	8:35	S-ROUTINE	Cadmium		Dissolved	0.00094		0.00003	0.00003
MW-01	3-Oct-18	8:35	S-ROUTINE	Calcium		Dissolved	115		0.07	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-01	3-Oct-18	8:35	S-ROUTINE	Cobalt		Dissolved	0.00026	J	0.00009	0.01
MW-01	3-Oct-18	8:35	S-ROUTINE	Copper		Dissolved	0.083		0.0001	0.001
MW-01	3-Oct-18	8:35	S-ROUTINE	Iron		Dissolved	0.012	J	0.002	0.02
MW-01	3-Oct-18	8:35	S-ROUTINE	Lead		Dissolved	0.00003	J	0.00003	0.0003
MW-01	3-Oct-18	8:35	S-ROUTINE	Magnesium		Dissolved	21		0.1	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Manganese		Dissolved	0.272	D	0.002	0.002
MW-01	3-Oct-18	8:35	S-ROUTINE	Molybdenum		Dissolved	0.0027	J	0.00002	0.005
MW-01	3-Oct-18	8:35	S-ROUTINE	Nickel		Dissolved	0.0009	J	0.0002	0.002
MW-01	3-Oct-18	8:35	S-ROUTINE	Potassium		Dissolved	8		0.06	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Selenium		Dissolved	0.00017	J	0.00002	0.001
MW-01	3-Oct-18	8:35	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-01	3-Oct-18	8:35	S-ROUTINE	Sodium		Dissolved	34		0.02	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Uranium-238		Dissolved	0.0114		0.00001	0.0002
MW-01	3-Oct-18	8:35	S-ROUTINE	Vanadium		Dissolved	0.00062	J	0.00007	0.1
MW-01	3-Oct-18	8:35	S-ROUTINE	Zinc		Dissolved	0.159		0.003	0.008
MW-01	3-Oct-18	8:35	S-ROUTINE	Mercury		Dissolved	0.0000046	J	0.000001	0.000005
MW-01	3-Oct-18	8:35	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	372		1	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Chloride		Total	20		0.009	1
MW-01	3-Oct-18	8:35	S-ROUTINE	Sulfate		Total	279		0.01	1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120		2	4
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Bicarbonate	as HCO3	Total	150		2	4
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Arsenic		Dissolved	0.012		0.00004	0.001
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Barium		Dissolved	0.04		0.00002	0.003
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Boron		Dissolved	0.043	J	0.006	0.1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Calcium		Dissolved	33		0.07	1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Copper		Dissolved	0.0001	J	0.0001	0.001
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Magnesium		Dissolved	7		0.1	1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Manganese		Dissolved	0.0006	J	0.0003	0.001
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Molybdenum		Dissolved	0.012		0.00002	0.005
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Potassium		Dissolved	5		0.06	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Selenium		Dissolved	0.00046	J	0.00002	0.001
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Sodium		Dissolved	31		0.02	1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Uranium-238		Dissolved	0.0029		0.00001	0.0002
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Vanadium		Dissolved	0.0051	J	0.00007	0.1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Zinc		Dissolved	0.0013	J	0.0003	0.008
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Mercury		Dissolved	0.0000012	J	0.000001	0.000005
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	110		1	1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Chloride		Total	15		0.009	1
GW-1003R	3-Oct-18	11:17	S-ROUTINE	Sulfate		Total	55		0.01	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Alkalinity, total	as CaCO3	Total	260		2	4
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Bicarbonate	as HCO3	Total	320		2	4
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Antimony		Dissolved	0.0004	J	0.00009	0.0005
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Barium		Dissolved	0.02		0.00002	0.003
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Boron		Dissolved	0.1		0.006	0.1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Calcium		Dissolved	94		0.07	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Chromium		Dissolved	0.0008	J	0.0002	0.01
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Copper		Dissolved	0.0007	J	0.0001	0.001
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Iron		Dissolved	0.004	J	0.002	0.02
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Magnesium		Dissolved	18		0.1	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Molybdenum		Dissolved	0.01		0.00002	0.005
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Nickel		Dissolved	0.0003	J	0.0002	0.002
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Potassium		Dissolved	6		0.06	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Selenium		Dissolved	0.00028	J	0.00002	0.001
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Sodium		Dissolved	132		0.02	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Uranium-238		Dissolved	0.0864		0.00001	0.0002
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Vanadium		Dissolved	0.00086	J	0.00007	0.1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Zinc		Dissolved	0.0008	J	0.0003	0.008
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Mercury		Dissolved	0.000002	J	0.000001	0.000005
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	308		1	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Chloride		Total	23		0.02	1
GW-1010R	3-Oct-18	17:10	S-ROUTINE	Sulfate		Total	348		0.01	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Alkalinity, total	as CaCO3	Total	150		2	4
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Bicarbonate	as HCO3	Total	190		2	4
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Antimony		Dissolved	0.0009		0.00009	0.0005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Arsenic		Dissolved	0.008		0.00004	0.001
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Barium		Dissolved	0.005		0.00002	0.003
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Boron		Dissolved	0.1		0.006	0.1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Calcium		Dissolved	71		0.07	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Copper		Dissolved	0.0009	J	0.0001	0.001
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Magnesium		Dissolved	10		0.004	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Manganese		Dissolved	0.006		0.0003	0.001
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Molybdenum		Dissolved	0.021		0.00002	0.005
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Nickel		Dissolved	0.0008	J	0.0002	0.002
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Potassium		Dissolved	7		0.06	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Selenium		Dissolved	0.00033	J	0.00002	0.001
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Sodium		Dissolved	79		0.02	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Uranium-238		Dissolved	0.0183		0.00001	0.0002
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Vanadium		Dissolved	0.00044	J	0.00007	0.1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Zinc		Dissolved	0.0018	J	0.0003	0.008
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Mercury		Dissolved	0.000002	J	0.000001	0.000005
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	217		1	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Chloride		Total	66		0.009	1
GW-WG-SS	3-Oct-18	16:05	S-ROUTINE	Sulfate		Total	171		0.01	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Alkalinity, total	as CaCO3	Total	220		2	4
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Bicarbonate	as HCO3	Total	260		2	4
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Antimony		Dissolved	0.00026	J	0.00009	0.0005
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Arsenic		Dissolved	0.006		0.00004	0.001
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Barium		Dissolved	0.04		0.00002	0.003
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Boron		Dissolved	0.1		0.006	0.1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Cadmium		Dissolved	0.00009		0.00003	0.00003
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Calcium		Dissolved	203		0.07	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Cobalt		Dissolved	0.0049	J	0.00009	0.01
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Copper		Dissolved	0.0005	J	0.0001	0.001
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Iron		Dissolved	0.003	J	0.002	0.02
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Lead		Dissolved	0.00013	J	0.00003	0.0003
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Magnesium		Dissolved	34		0.1	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Manganese		Dissolved	5.27	D	0.002	0.002
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Molybdenum		Dissolved	0.013		0.00002	0.005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Nickel		Dissolved	0.0012	J	0.0002	0.002
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Potassium		Dissolved	9		0.06	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Selenium		Dissolved	0.00012	J	0.00002	0.001
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Sodium		Dissolved	90		0.02	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Uranium-238		Dissolved	0.0255		0.00001	0.0002
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Vanadium		Dissolved	0.00018	J	0.00007	0.1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Zinc		Dissolved	1.07		0.003	0.008
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Mercury		Dissolved	0.0000017	J	0.000001	0.000005
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	645		1	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Chloride		Total	40		0.009	1
GW-WG-NS	3-Oct-18	16:27	S-ROUTINE	Sulfate		Total	641		0.01	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	<2		2	4
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Bicarbonate	as HCO3	Total	<2		2	4
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Aluminum		Dissolved	0.292		0.003	0.009
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Arsenic		Dissolved	0.00014	J	0.00004	0.001
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Barium		Dissolved	0.012		0.00002	0.003
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Beryllium		Dissolved	0.0001	J	0.0001	0.0008
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Boron		Dissolved	0.1		0.006	0.1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Cadmium		Dissolved	0.00364		0.00003	0.00003
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Calcium		Dissolved	60		0.07	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Cobalt		Dissolved	0.04		0.00009	0.01
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Copper		Dissolved	0.369		0.0001	0.001
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Iron		Dissolved	48.5		0.01	0.02
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Lead		Dissolved	0.0163		0.00003	0.0003
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Magnesium		Dissolved	29		0.1	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Manganese		Dissolved	19.3	D	0.002	0.002
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Molybdenum		Dissolved	<0.00002		0.00002	0.005
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Nickel		Dissolved	0.014		0.0002	0.002
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Potassium		Dissolved	6		0.06	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Selenium		Dissolved	0.00009	J	0.00002	0.001
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Sodium		Dissolved	48		0.02	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Uranium-238		Dissolved	0.001		0.00001	0.0002
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Vanadium		Dissolved	<0.00007		0.00007	0.1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Zinc		Dissolved	5.72		0.003	0.008
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Mercury		Dissolved	0.0000058		0.000001	0.000005
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	269		1	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Chloride		Total	68		0.02	1
1GW-1004A	3-Oct-18	12:00	S-ROUTINE	Sulfate		Total	463		0.02	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Alkalinity, total	as CaCO3	Total	14		2	4
P-58A	3-Oct-18	12:10	S-ROUTINE	Bicarbonate	as HCO3	Total	17		2	4

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
P-58A	3-Oct-18	12:10	S-ROUTINE	Aluminum		Dissolved	1.07		0.007	0.009
P-58A	3-Oct-18	12:10	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
P-58A	3-Oct-18	12:10	S-ROUTINE	Arsenic		Dissolved	0.00085	J	0.00004	0.001
P-58A	3-Oct-18	12:10	S-ROUTINE	Barium		Dissolved	0.031		0.00002	0.003
P-58A	3-Oct-18	12:10	S-ROUTINE	Beryllium		Dissolved	0.0006	J	0.0001	0.0008
P-58A	3-Oct-18	12:10	S-ROUTINE	Boron		Dissolved	0.081	J	0.006	0.1
P-58A	3-Oct-18	12:10	S-ROUTINE	Cadmium		Dissolved	0.0217		0.00003	0.00003
P-58A	3-Oct-18	12:10	S-ROUTINE	Calcium		Dissolved	82		0.07	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
P-58A	3-Oct-18	12:10	S-ROUTINE	Cobalt		Dissolved	0.04		0.00009	0.01
P-58A	3-Oct-18	12:10	S-ROUTINE	Copper		Dissolved	0.56		0.0001	0.001
P-58A	3-Oct-18	12:10	S-ROUTINE	Iron		Dissolved	21.6		0.01	0.02
P-58A	3-Oct-18	12:10	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
P-58A	3-Oct-18	12:10	S-ROUTINE	Magnesium		Dissolved	21		0.1	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Manganese		Dissolved	11.4	D	0.002	0.002
P-58A	3-Oct-18	12:10	S-ROUTINE	Molybdenum		Dissolved	0.00004	J	0.00002	0.005
P-58A	3-Oct-18	12:10	S-ROUTINE	Nickel		Dissolved	0.03		0.0002	0.002
P-58A	3-Oct-18	12:10	S-ROUTINE	Potassium		Dissolved	8		0.06	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Selenium		Dissolved	0.00008	J	0.00002	0.001
P-58A	3-Oct-18	12:10	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
P-58A	3-Oct-18	12:10	S-ROUTINE	Sodium		Dissolved	52		0.02	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Uranium-238		Dissolved	0.0007		0.00001	0.0002
P-58A	3-Oct-18	12:10	S-ROUTINE	Vanadium		Dissolved	<0.00007		0.00007	0.1
P-58A	3-Oct-18	12:10	S-ROUTINE	Zinc		Dissolved	10.1		0.003	0.008
P-58A	3-Oct-18	12:10	S-ROUTINE	Mercury		Dissolved	0.0000019	J	0.000001	0.000005
P-58A	3-Oct-18	12:10	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	290		1	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Chloride		Total	92		0.009	1
P-58A	3-Oct-18	12:10	S-ROUTINE	Sulfate		Total	356		0.01	1
P-39R	3-Oct-18	14:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	310		2	4
P-39R	3-Oct-18	14:00	S-ROUTINE	Bicarbonate	as HCO3	Total	380		2	4
P-39R	3-Oct-18	14:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
P-39R	3-Oct-18	14:00	S-ROUTINE	Antimony		Dissolved	0.00023	J	0.00009	0.0005
P-39R	3-Oct-18	14:00	S-ROUTINE	Arsenic		Dissolved	0.011		0.00004	0.001
P-39R	3-Oct-18	14:00	S-ROUTINE	Barium		Dissolved	0.111		0.00002	0.003
P-39R	3-Oct-18	14:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
P-39R	3-Oct-18	14:00	S-ROUTINE	Boron		Dissolved	0.3		0.006	0.1
P-39R	3-Oct-18	14:00	S-ROUTINE	Cadmium		Dissolved	0.0001		0.00003	0.00003
P-39R	3-Oct-18	14:00	S-ROUTINE	Calcium		Dissolved	164		0.07	1
P-39R	3-Oct-18	14:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
P-39R	3-Oct-18	14:00	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
P-39R	3-Oct-18	14:00	S-ROUTINE	Copper		Dissolved	0.038		0.0001	0.001
P-39R	3-Oct-18	14:00	S-ROUTINE	Iron		Dissolved	0.009	J	0.002	0.02
P-39R	3-Oct-18	14:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
P-39R	3-Oct-18	14:00	S-ROUTINE	Magnesium		Dissolved	30		0.1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
P-39R	3-Oct-18	14:00	S-ROUTINE	Manganese		Dissolved	0.003		0.0003	0.001
P-39R	3-Oct-18	14:00	S-ROUTINE	Molybdenum		Dissolved	0.006		0.00002	0.005
P-39R	3-Oct-18	14:00	S-ROUTINE	Nickel		Dissolved	0.0007	J	0.0002	0.002
P-39R	3-Oct-18	14:00	S-ROUTINE	Potassium		Dissolved	13		0.06	1
P-39R	3-Oct-18	14:00	S-ROUTINE	Selenium		Dissolved	0.002		0.00002	0.001
P-39R	3-Oct-18	14:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
P-39R	3-Oct-18	14:00	S-ROUTINE	Sodium		Dissolved	85		0.02	1
P-39R	3-Oct-18	14:00	S-ROUTINE	Uranium-238		Dissolved	0.111		0.00001	0.0002
P-39R	3-Oct-18	14:00	S-ROUTINE	Vanadium		Dissolved	0.0073	J	0.00007	0.1
P-39R	3-Oct-18	14:00	S-ROUTINE	Zinc		Dissolved	0.0056	J	0.0003	0.008
P-39R	3-Oct-18	14:00	S-ROUTINE	Mercury		Dissolved	0.0000029	J	0.000001	0.000005
P-39R	3-Oct-18	14:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	530		1	1
P-39R	3-Oct-18	14:00	S-ROUTINE	Chloride		Total	60		0.02	1
P-39R	3-Oct-18	14:00	S-ROUTINE	Sulfate		Total	353		0.02	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Alkalinity, total	as CaCO3	Total	99		2	4
P-37A	3-Oct-18	13:20	S-ROUTINE	Bicarbonate	as HCO3	Total	120		2	4
P-37A	3-Oct-18	13:20	S-ROUTINE	Aluminum		Dissolved	0.004	J	0.003	0.009
P-37A	3-Oct-18	13:20	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
P-37A	3-Oct-18	13:20	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
P-37A	3-Oct-18	13:20	S-ROUTINE	Barium		Dissolved	0.025		0.00002	0.003
P-37A	3-Oct-18	13:20	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
P-37A	3-Oct-18	13:20	S-ROUTINE	Boron		Dissolved	0.092	J	0.006	0.1
P-37A	3-Oct-18	13:20	S-ROUTINE	Cadmium		Dissolved	0.0154		0.00003	0.00003
P-37A	3-Oct-18	13:20	S-ROUTINE	Calcium		Dissolved	139		0.07	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
P-37A	3-Oct-18	13:20	S-ROUTINE	Cobalt		Dissolved	0.01		0.00009	0.01
P-37A	3-Oct-18	13:20	S-ROUTINE	Copper		Dissolved	0.041		0.0001	0.001
P-37A	3-Oct-18	13:20	S-ROUTINE	Iron		Dissolved	0.012	J	0.002	0.02
P-37A	3-Oct-18	13:20	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
P-37A	3-Oct-18	13:20	S-ROUTINE	Magnesium		Dissolved	25		0.004	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Manganese		Dissolved	6.5	D	0.002	0.002
P-37A	3-Oct-18	13:20	S-ROUTINE	Molybdenum		Dissolved	0.00076	J	0.00002	0.005
P-37A	3-Oct-18	13:20	S-ROUTINE	Nickel		Dissolved	0.004		0.0002	0.002
P-37A	3-Oct-18	13:20	S-ROUTINE	Potassium		Dissolved	8		0.06	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Selenium		Dissolved	0.0001	J	0.00002	0.001
P-37A	3-Oct-18	13:20	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
P-37A	3-Oct-18	13:20	S-ROUTINE	Sodium		Dissolved	92		0.02	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Uranium-238		Dissolved	0.0017		0.00001	0.0002
P-37A	3-Oct-18	13:20	S-ROUTINE	Vanadium		Dissolved	0.00009	J	0.00007	0.1
P-37A	3-Oct-18	13:20	S-ROUTINE	Zinc		Dissolved	0.951		0.0003	0.008
P-37A	3-Oct-18	13:20	S-ROUTINE	Mercury		Dissolved	0.0000055		0.000001	0.000005
P-37A	3-Oct-18	13:20	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	438		1	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Chloride		Total	124		0.02	1
P-37A	3-Oct-18	13:20	S-ROUTINE	Sulfate		Total	437		0.02	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
P-114	3-Oct-18	13:37	S-ROUTINE	Alkalinity, total	as CaCO3	Total	200		2	4
P-114	3-Oct-18	13:37	S-ROUTINE	Bicarbonate	as HCO3	Total	240		2	4
P-114	3-Oct-18	13:37	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
P-114	3-Oct-18	13:37	S-ROUTINE	Antimony		Dissolved	0.00037	J	0.00009	0.0005
P-114	3-Oct-18	13:37	S-ROUTINE	Arsenic		Dissolved	0.004		0.00004	0.001
P-114	3-Oct-18	13:37	S-ROUTINE	Barium		Dissolved	0.027		0.00002	0.003
P-114	3-Oct-18	13:37	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
P-114	3-Oct-18	13:37	S-ROUTINE	Boron		Dissolved	0.085	J	0.006	0.1
P-114	3-Oct-18	13:37	S-ROUTINE	Cadmium		Dissolved	0.00012		0.00003	0.00003
P-114	3-Oct-18	13:37	S-ROUTINE	Calcium		Dissolved	57		0.07	1
P-114	3-Oct-18	13:37	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
P-114	3-Oct-18	13:37	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
P-114	3-Oct-18	13:37	S-ROUTINE	Copper		Dissolved	0.0004	J	0.0001	0.001
P-114	3-Oct-18	13:37	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
P-114	3-Oct-18	13:37	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
P-114	3-Oct-18	13:37	S-ROUTINE	Magnesium		Dissolved	6		0.1	1
P-114	3-Oct-18	13:37	S-ROUTINE	Manganese		Dissolved	0.005		0.0003	0.001
P-114	3-Oct-18	13:37	S-ROUTINE	Molybdenum		Dissolved	0.007		0.00002	0.005
P-114	3-Oct-18	13:37	S-ROUTINE	Nickel		Dissolved	0.0004	J	0.0002	0.002
P-114	3-Oct-18	13:37	S-ROUTINE	Potassium		Dissolved	4		0.06	1
P-114	3-Oct-18	13:37	S-ROUTINE	Selenium		Dissolved	0.00088	J	0.00002	0.001
P-114	3-Oct-18	13:37	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
P-114	3-Oct-18	13:37	S-ROUTINE	Sodium		Dissolved	98		0.02	1
P-114	3-Oct-18	13:37	S-ROUTINE	Uranium-238		Dissolved	0.003		0.00001	0.0002
P-114	3-Oct-18	13:37	S-ROUTINE	Vanadium		Dissolved	0.00043	J	0.00007	0.1
P-114	3-Oct-18	13:37	S-ROUTINE	Zinc		Dissolved	0.0043	J	0.0003	0.008
P-114	3-Oct-18	13:37	S-ROUTINE	Mercury		Dissolved	0.0000085		0.000001	0.000005
P-114	3-Oct-18	13:37	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	166		1	1
P-114	3-Oct-18	13:37	S-ROUTINE	Chloride		Total	40		0.009	1
P-114	3-Oct-18	13:37	S-ROUTINE	Sulfate		Total	143		0.01	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Alkalinity, total	as CaCO3	Total	160		2	4
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Bicarbonate	as HCO3	Total	190		2	4
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Aluminum		Dissolved	0.012		0.003	0.009
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Antimony		Dissolved	0.0016		0.00009	0.0005
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Arsenic		Dissolved	0.027		0.00004	0.001
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Barium		Dissolved	0.016		0.00002	0.003
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Boron		Dissolved	0.2		0.01	0.1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Cadmium		Dissolved	0.00004		0.00003	0.00003
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Calcium		Dissolved	15		0.1	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Cobalt		Dissolved	0.00083	J	0.00009	0.01
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Copper		Dissolved	0.003		0.0001	0.001
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Iron		Dissolved	0.018	J	0.002	0.02

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Magnesium		Dissolved	2		0.3	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Manganese		Dissolved	0.156		0.0003	0.001
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Molybdenum		Dissolved	0.027		0.00002	0.005
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Nickel		Dissolved	0.0018	J	0.0002	0.002
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Potassium		Dissolved	4		0.1	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Selenium		Dissolved	0.00023	J	0.00002	0.001
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Sodium		Dissolved	127		0.03	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Uranium-238		Dissolved	0.0032		0.00001	0.0002
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Vanadium		Dissolved	0.006	J	0.00007	0.1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Zinc		Dissolved	0.0019	J	0.0003	0.008
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Mercury		Dissolved	0.0000035	J	0.000001	0.000005
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	46		1	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Chloride		Total	19		0.02	1
GW-CR-BG	3-Oct-18	9:35	S-ROUTINE	Sulfate		Total	120		0.02	1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Alkalinity, total	as CaCO3	Total	160		2	4
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Bicarbonate	as HCO3	Total	200		2	4
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Aluminum		Dissolved	0.04		0.003	0.009
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Antimony		Dissolved	0.0008		0.00009	0.0005
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Arsenic		Dissolved	0.016		0.00004	0.001
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Barium		Dissolved	0.035		0.00002	0.003
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Boron		Dissolved	0.2		0.006	0.1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Cadmium		Dissolved	0.0132		0.00003	0.00003
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Calcium		Dissolved	37		0.07	1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Cobalt		Dissolved	0.0021	J	0.00009	0.01
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Copper		Dissolved	0.027		0.0001	0.001
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Iron		Dissolved	0.06		0.002	0.02
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Lead		Dissolved	0.00021	J	0.00003	0.0003
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Magnesium		Dissolved	6		0.1	1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Manganese		Dissolved	1.52	D	0.002	0.002
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Molybdenum		Dissolved	0.027		0.00002	0.005
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Nickel		Dissolved	0.002		0.0002	0.002
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Potassium		Dissolved	5		0.06	1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Selenium		Dissolved	0.00014	J	0.00002	0.001
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Sodium		Dissolved	84		0.02	1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Uranium-238		Dissolved	0.0063		0.00001	0.0002
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Vanadium		Dissolved	0.00072	J	0.00007	0.1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Zinc		Dissolved	0.218		0.0003	0.008
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Mercury		Dissolved	0.0000068		0.000001	0.000005
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	116		1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Chloride		Total	37		0.009	1
GW-CR-WS	3-Oct-18	10:25	S-ROUTINE	Sulfate		Total	107		0.01	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	95		2	4
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Bicarbonate	as HCO3	Total	120		2	4
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Aluminum		Dissolved	0.017		0.003	0.009
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Antimony		Dissolved	0.00041	J	0.00009	0.0005
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Arsenic		Dissolved	0.001		0.00004	0.001
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Barium		Dissolved	0.016		0.00002	0.003
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Boron		Dissolved	0.062	J	0.006	0.1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Cadmium		Dissolved	0.00186		0.00003	0.00003
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Calcium		Dissolved	40		0.07	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Chromium		Dissolved	0.0004	J	0.0002	0.01
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Cobalt		Dissolved	0.00023	J	0.00009	0.01
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Copper		Dissolved	0.005		0.0001	0.001
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Magnesium		Dissolved	8		0.1	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Manganese		Dissolved	0.043		0.0003	0.001
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Molybdenum		Dissolved	0.006		0.00002	0.005
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Nickel		Dissolved	0.002		0.0002	0.002
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Potassium		Dissolved	3		0.06	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Selenium		Dissolved	0.00018	J	0.00002	0.001
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Sodium		Dissolved	54		0.02	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Uranium-238		Dissolved	0.0012		0.00001	0.0002
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Vanadium		Dissolved	0.0025	J	0.00007	0.1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Zinc		Dissolved	0.401		0.0003	0.008
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Mercury		Dissolved	0.0000032	J	0.000001	0.000005
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	132		1	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Chloride		Total	38		0.009	1
GW-CR-ES	3-Oct-18	10:30	S-ROUTINE	Sulfate		Total	112		0.01	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	69		2	4
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Bicarbonate	as HCO3	Total	83		2	4
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Aluminum		Dissolved	0.032		0.003	0.009
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Antimony		Dissolved	0.0005		0.00009	0.0005
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Barium		Dissolved	0.032		0.00002	0.003
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Boron		Dissolved	0.064	J	0.006	0.1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Cadmium		Dissolved	0.0238		0.00003	0.00003
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Calcium		Dissolved	38		0.07	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Cobalt		Dissolved	0.01		0.00009	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Copper		Dissolved	0.234		0.0001	0.001
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Iron		Dissolved	0.02		0.002	0.02
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Magnesium		Dissolved	10		0.1	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Manganese		Dissolved	5.11	D	0.002	0.002
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Molybdenum		Dissolved	0.007		0.00002	0.005
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Nickel		Dissolved	0.012		0.0002	0.002
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Potassium		Dissolved	6		0.06	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Selenium		Dissolved	0.00017	J	0.00002	0.001
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Sodium		Dissolved	34		0.02	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Uranium-238		Dissolved	0.0058		0.00001	0.0002
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Vanadium		Dissolved	0.00072	J	0.00007	0.1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Zinc		Dissolved	6.88		0.003	0.008
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Mercury		Dissolved	0.0000114		0.000001	0.000005
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	136		1	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Chloride		Total	50		0.009	1
GW-MC-NS	3-Oct-18	15:00	S-ROUTINE	Sulfate		Total	107		0.01	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Alkalinity, total	as CaCO3	Total	130		2	4
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Bicarbonate	as HCO3	Total	160		2	4
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Antimony		Dissolved	0.00042	J	0.00009	0.0005
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Arsenic		Dissolved	0.003		0.00004	0.001
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Barium		Dissolved	0.049		0.00002	0.003
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Boron		Dissolved	0.062	J	0.006	0.1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Cadmium		Dissolved	0.0154		0.00003	0.00003
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Calcium		Dissolved	53		0.07	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Cobalt		Dissolved	0.00058	J	0.00009	0.01
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Copper		Dissolved	0.012		0.0001	0.001
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Magnesium		Dissolved	13		0.1	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Manganese		Dissolved	2.65	D	0.002	0.002
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Molybdenum		Dissolved	0.016		0.00002	0.005
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Nickel		Dissolved	0.007		0.0002	0.002
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Potassium		Dissolved	6		0.06	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Selenium		Dissolved	0.0002	J	0.00002	0.001
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Sodium		Dissolved	35		0.02	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Uranium-238		Dissolved	0.0061		0.00001	0.0002
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Vanadium		Dissolved	0.009	J	0.00007	0.1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Zinc		Dissolved	3.03		0.003	0.008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Mercury		Dissolved	0.0000052		0.000001	0.000005
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	187		1	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Chloride		Total	49		0.009	1
GW-MC-SS	3-Oct-18	15:10	S-ROUTINE	Sulfate		Total	91		0.01	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Alkalinity, total	as CaCO3	Total	270		2	4
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Bicarbonate	as HCO3	Total	320		2	4
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Antimony		Dissolved	0.00021	J	0.00009	0.0005
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Arsenic		Dissolved	0.04		0.00004	0.001
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Barium		Dissolved	0.023		0.00002	0.003
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Boron		Dissolved	0.077	J	0.006	0.1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Calcium		Dissolved	40		0.07	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Cobalt		Dissolved	0.00013	J	0.00009	0.01
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Copper		Dissolved	0.0004	J	0.0001	0.001
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Magnesium		Dissolved	9		0.1	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Manganese		Dissolved	0.003		0.0003	0.001
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Molybdenum		Dissolved	0.052		0.00002	0.005
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Nickel		Dissolved	0.0005	J	0.0002	0.002
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Potassium		Dissolved	5		0.06	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Selenium		Dissolved	0.00027	J	0.00002	0.001
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Sodium		Dissolved	241		0.02	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Uranium-238		Dissolved	0.004		0.00001	0.0002
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Vanadium		Dissolved	0.0032	J	0.00007	0.1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Zinc		Dissolved	0.0017	J	0.0003	0.008
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Mercury		Dissolved	0.0000021	J	0.000001	0.000005
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	136		1	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Chloride		Total	85		0.009	1
GW-MC-BG	3-Oct-18	16:17	S-ROUTINE	Sulfate		Total	275		0.01	1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	140		2	4
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Bicarbonate	as HCO3	Total	170		2	4
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Antimony		Dissolved	0.00018	J	0.00009	0.0005
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Arsenic		Dissolved	0.006		0.00004	0.001
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Barium		Dissolved	0.039		0.00002	0.003
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Boron		Dissolved	0.053	J	0.006	0.1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Calcium		Dissolved	84		0.07	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Cobalt		Dissolved	0.00028	J	0.00009	0.01
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Copper		Dissolved	0.0002	J	0.0001	0.001
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Magnesium		Dissolved	17		0.1	1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Manganese		Dissolved	0.169		0.0003	0.001
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Molybdenum		Dissolved	0.006		0.00002	0.005
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Nickel		Dissolved	0.003		0.0002	0.002
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Potassium		Dissolved	4		0.06	1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Selenium		Dissolved	0.004		0.00002	0.001
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Sodium		Dissolved	29		0.02	1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Uranium-238		Dissolved	0.0332		0.00001	0.0002
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Vanadium		Dissolved	0.0029	J	0.00007	0.1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Zinc		Dissolved	0.0018	J	0.0003	0.008
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Mercury		Dissolved	0.0000018	J	0.000001	0.000005
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	279		1	1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Chloride		Total	23		0.009	1
1GW-1056	2-Oct-18	12:00	S-ROUTINE	Sulfate		Total	190		0.01	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Alkalinity, total	as CaCO3	Total	260		2	4
LYP-07	2-Oct-18	11:05	S-ROUTINE	Bicarbonate	as HCO3	Total	310		2	4
LYP-07	2-Oct-18	11:05	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYP-07	2-Oct-18	11:05	S-ROUTINE	Antimony		Dissolved	0.0012		0.00009	0.0005
LYP-07	2-Oct-18	11:05	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
LYP-07	2-Oct-18	11:05	S-ROUTINE	Barium		Dissolved	0.077		0.00002	0.003
LYP-07	2-Oct-18	11:05	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYP-07	2-Oct-18	11:05	S-ROUTINE	Boron		Dissolved	0.055	J	0.006	0.1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYP-07	2-Oct-18	11:05	S-ROUTINE	Calcium		Dissolved	100		0.07	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
LYP-07	2-Oct-18	11:05	S-ROUTINE	Cobalt		Dissolved	0.001	J	0.00009	0.01
LYP-07	2-Oct-18	11:05	S-ROUTINE	Copper		Dissolved	0.0002	J	0.0001	0.001
LYP-07	2-Oct-18	11:05	S-ROUTINE	Iron		Dissolved	0.03		0.002	0.02
LYP-07	2-Oct-18	11:05	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
LYP-07	2-Oct-18	11:05	S-ROUTINE	Magnesium		Dissolved	18		0.1	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Manganese		Dissolved	0.978		0.0003	0.001
LYP-07	2-Oct-18	11:05	S-ROUTINE	Molybdenum		Dissolved	0.012		0.00002	0.005
LYP-07	2-Oct-18	11:05	S-ROUTINE	Nickel		Dissolved	0.003		0.0002	0.002
LYP-07	2-Oct-18	11:05	S-ROUTINE	Potassium		Dissolved	7		0.06	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Selenium		Dissolved	0.004		0.00002	0.001
LYP-07	2-Oct-18	11:05	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYP-07	2-Oct-18	11:05	S-ROUTINE	Sodium		Dissolved	34		0.02	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Uranium-238		Dissolved	0.0847		0.00001	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYP-07	2-Oct-18	11:05	S-ROUTINE	Vanadium		Dissolved	0.00075	J	0.00007	0.1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Zinc		Dissolved	0.0016	J	0.0003	0.008
LYP-07	2-Oct-18	11:05	S-ROUTINE	Mercury		Dissolved	0.0000033	J	0.000001	0.000005
LYP-07	2-Oct-18	11:05	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	322		1	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Chloride		Total	30		0.009	1
LYP-07	2-Oct-18	11:05	S-ROUTINE	Sulfate		Total	124		0.01	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	130		2	4
MW-2A	2-Oct-18	13:00	S-ROUTINE	Bicarbonate	as HCO3	Total	150		2	4
MW-2A	2-Oct-18	13:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2A	2-Oct-18	13:00	S-ROUTINE	Antimony		Dissolved	0.00036	J	0.00009	0.0005
MW-2A	2-Oct-18	13:00	S-ROUTINE	Arsenic		Dissolved	0.012		0.00004	0.001
MW-2A	2-Oct-18	13:00	S-ROUTINE	Barium		Dissolved	0.015		0.00002	0.003
MW-2A	2-Oct-18	13:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2A	2-Oct-18	13:00	S-ROUTINE	Boron		Dissolved	0.036	J	0.006	0.1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2A	2-Oct-18	13:00	S-ROUTINE	Calcium		Dissolved	86		0.07	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2A	2-Oct-18	13:00	S-ROUTINE	Cobalt		Dissolved	0.00026	J	0.00009	0.01
MW-2A	2-Oct-18	13:00	S-ROUTINE	Copper		Dissolved	0.0002	J	0.0001	0.001
MW-2A	2-Oct-18	13:00	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2A	2-Oct-18	13:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2A	2-Oct-18	13:00	S-ROUTINE	Magnesium		Dissolved	13		0.1	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Manganese		Dissolved	0.108		0.0003	0.001
MW-2A	2-Oct-18	13:00	S-ROUTINE	Molybdenum		Dissolved	0.009		0.00002	0.005
MW-2A	2-Oct-18	13:00	S-ROUTINE	Nickel		Dissolved	0.0006	J	0.0002	0.002
MW-2A	2-Oct-18	13:00	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Selenium		Dissolved	0.012		0.00002	0.001
MW-2A	2-Oct-18	13:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2A	2-Oct-18	13:00	S-ROUTINE	Sodium		Dissolved	26		0.02	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Uranium-238		Dissolved	0.0444		0.00001	0.0002
MW-2A	2-Oct-18	13:00	S-ROUTINE	Vanadium		Dissolved	0.0029	J	0.00007	0.1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Zinc		Dissolved	0.0012	J	0.0003	0.008
MW-2A	2-Oct-18	13:00	S-ROUTINE	Mercury		Dissolved	0.0000016	J	0.000001	0.000005
MW-2A	2-Oct-18	13:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	268		1	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Chloride		Total	5		0.009	1
MW-2A	2-Oct-18	13:00	S-ROUTINE	Sulfate		Total	208		0.01	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Alkalinity, total	as CaCO3	Total	78		2	4
MW-2B	2-Oct-18	13:40	S-ROUTINE	Bicarbonate	as HCO3	Total	94		2	4
MW-2B	2-Oct-18	13:40	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2B	2-Oct-18	13:40	S-ROUTINE	Antimony		Dissolved	0.0003	J	0.00009	0.0005
MW-2B	2-Oct-18	13:40	S-ROUTINE	Arsenic		Dissolved	0.017		0.00004	0.001
MW-2B	2-Oct-18	13:40	S-ROUTINE	Barium		Dissolved	0.051		0.00002	0.003
MW-2B	2-Oct-18	13:40	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2B	2-Oct-18	13:40	S-ROUTINE	Boron		Dissolved	0.059	J	0.006	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2B	2-Oct-18	13:40	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2B	2-Oct-18	13:40	S-ROUTINE	Calcium		Dissolved	99		0.07	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2B	2-Oct-18	13:40	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2B	2-Oct-18	13:40	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
MW-2B	2-Oct-18	13:40	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2B	2-Oct-18	13:40	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2B	2-Oct-18	13:40	S-ROUTINE	Magnesium		Dissolved	27		0.1	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
MW-2B	2-Oct-18	13:40	S-ROUTINE	Molybdenum		Dissolved	0.006		0.00002	0.005
MW-2B	2-Oct-18	13:40	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2B	2-Oct-18	13:40	S-ROUTINE	Potassium		Dissolved	6		0.06	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Selenium		Dissolved	0.003		0.00002	0.001
MW-2B	2-Oct-18	13:40	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2B	2-Oct-18	13:40	S-ROUTINE	Sodium		Dissolved	31		0.02	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Uranium-238		Dissolved	0.0063		0.00001	0.0002
MW-2B	2-Oct-18	13:40	S-ROUTINE	Vanadium		Dissolved	0.0045	J	0.00007	0.1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Zinc		Dissolved	0.001	J	0.0003	0.008
MW-2B	2-Oct-18	13:40	S-ROUTINE	Mercury		Dissolved	0.0000029	J	0.000001	0.000005
MW-2B	2-Oct-18	13:40	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	361		1	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Chloride		Total	41		0.009	1
MW-2B	2-Oct-18	13:40	S-ROUTINE	Sulfate		Total	310		0.01	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Alkalinity, total	as CaCO3	Total	110		2	4
MW-2C	2-Oct-18	13:50	S-ROUTINE	Bicarbonate	as HCO3	Total	140		2	4
MW-2C	2-Oct-18	13:50	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2C	2-Oct-18	13:50	S-ROUTINE	Antimony		Dissolved	0.00017	J	0.00009	0.0005
MW-2C	2-Oct-18	13:50	S-ROUTINE	Arsenic		Dissolved	0.008		0.00004	0.001
MW-2C	2-Oct-18	13:50	S-ROUTINE	Barium		Dissolved	0.026		0.00002	0.003
MW-2C	2-Oct-18	13:50	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2C	2-Oct-18	13:50	S-ROUTINE	Boron		Dissolved	0.067	J	0.006	0.1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2C	2-Oct-18	13:50	S-ROUTINE	Calcium		Dissolved	104		0.07	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2C	2-Oct-18	13:50	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2C	2-Oct-18	13:50	S-ROUTINE	Copper		Dissolved	0.0004	J	0.0001	0.001
MW-2C	2-Oct-18	13:50	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2C	2-Oct-18	13:50	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2C	2-Oct-18	13:50	S-ROUTINE	Magnesium		Dissolved	23		0.1	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
MW-2C	2-Oct-18	13:50	S-ROUTINE	Molybdenum		Dissolved	0.0028	J	0.00002	0.005
MW-2C	2-Oct-18	13:50	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2C	2-Oct-18	13:50	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Selenium		Dissolved	0.003		0.00002	0.001
MW-2C	2-Oct-18	13:50	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2C	2-Oct-18	13:50	S-ROUTINE	Sodium		Dissolved	47		0.02	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Uranium-238		Dissolved	0.0121		0.00001	0.0002
MW-2C	2-Oct-18	13:50	S-ROUTINE	Vanadium		Dissolved	0.0029	J	0.00007	0.1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Zinc		Dissolved	0.0024	J	0.0003	0.008
MW-2C	2-Oct-18	13:50	S-ROUTINE	Mercury		Dissolved	0.0000024	J	0.000001	0.000005
MW-2C	2-Oct-18	13:50	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	355		1	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Chloride		Total	37		0.009	1
MW-2C	2-Oct-18	13:50	S-ROUTINE	Sulfate		Total	299		0.01	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	180		2	4
MW-2D	2-Oct-18	15:00	S-ROUTINE	Bicarbonate	as HCO3	Total	210		2	4
MW-2D	2-Oct-18	15:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2D	2-Oct-18	15:00	S-ROUTINE	Antimony		Dissolved	0.00019	J	0.00009	0.0005
MW-2D	2-Oct-18	15:00	S-ROUTINE	Arsenic		Dissolved	0.008		0.00004	0.001
MW-2D	2-Oct-18	15:00	S-ROUTINE	Barium		Dissolved	0.049		0.00002	0.003
MW-2D	2-Oct-18	15:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2D	2-Oct-18	15:00	S-ROUTINE	Boron		Dissolved	0.063	J	0.006	0.1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2D	2-Oct-18	15:00	S-ROUTINE	Calcium		Dissolved	107		0.07	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2D	2-Oct-18	15:00	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2D	2-Oct-18	15:00	S-ROUTINE	Copper		Dissolved	0.0004	J	0.0001	0.001
MW-2D	2-Oct-18	15:00	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
MW-2D	2-Oct-18	15:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2D	2-Oct-18	15:00	S-ROUTINE	Magnesium		Dissolved	23		0.1	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
MW-2D	2-Oct-18	15:00	S-ROUTINE	Molybdenum		Dissolved	0.006		0.00002	0.005
MW-2D	2-Oct-18	15:00	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2D	2-Oct-18	15:00	S-ROUTINE	Potassium		Dissolved	4		0.06	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Selenium		Dissolved	0.005		0.00002	0.001
MW-2D	2-Oct-18	15:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2D	2-Oct-18	15:00	S-ROUTINE	Sodium		Dissolved	32		0.02	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Uranium-238		Dissolved	0.0718		0.00001	0.0002
MW-2D	2-Oct-18	15:00	S-ROUTINE	Vanadium		Dissolved	0.0027	J	0.00007	0.1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Zinc		Dissolved	0.0026	J	0.0003	0.008
MW-2D	2-Oct-18	15:00	S-ROUTINE	Mercury		Dissolved	0.0000017	J	0.000001	0.000005
MW-2D	2-Oct-18	15:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	360		1	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Chloride		Total	36		0.009	1
MW-2D	2-Oct-18	15:00	S-ROUTINE	Sulfate		Total	233		0.01	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120	J	2	4
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Bicarbonate	as HCO3	Total	150	J	2	4
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Antimony		Dissolved	0.0004	J	0.00009	0.0005
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Barium		Dissolved	0.055		0.00002	0.003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Boron		Dissolved	0.062	J	0.006	0.1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Cadmium		Dissolved	0.00012		0.00003	0.00003
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Calcium		Dissolved	67		0.07	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Cobalt		Dissolved	0.0022	J	0.00009	0.01
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Iron		Dissolved	0.006	J	0.002	0.02
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Magnesium		Dissolved	13		0.1	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Manganese		Dissolved	1.46	DJ	0.002	0.002
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Molybdenum		Dissolved	0.0047	J	0.00002	0.005
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Nickel		Dissolved	0.002		0.0002	0.002
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Potassium		Dissolved	6		0.06	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Selenium		Dissolved	0.00042	J	0.00002	0.001
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Sodium		Dissolved	38		0.02	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Uranium-238		Dissolved	0.0019		0.00001	0.0002
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Vanadium		Dissolved	0.00042	J	0.00007	0.1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Zinc		Dissolved	0.486		0.0003	0.008
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Mercury		Dissolved	0.0000036	J	0.000001	0.000005
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	220		1	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Chloride		Total	54		0.009	1
GW-FM-ES	4-Oct-18	9:00	S-ROUTINE	Sulfate		Total	134		0.01	1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Alkalinity, total	as CaCO3	Total	130	J	2	4
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Bicarbonate	as HCO3	Total	160	J	2	4
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Antimony		Dissolved	0.00022	J	0.00009	0.0005
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Barium		Dissolved	0.099		0.00002	0.003
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Boron		Dissolved	0.052	J	0.006	0.1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Cadmium		Dissolved	0.00003	J	0.00003	0.00003
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Calcium		Dissolved	53		0.07	1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Cobalt		Dissolved	0.00047	J	0.00009	0.01
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Copper		Dissolved	0.001		0.0001	0.001
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Iron		Dissolved	0.005	J	0.002	0.02
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Magnesium		Dissolved	11		0.1	1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Manganese		Dissolved	2.13	DJ	0.002	0.002
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Molybdenum		Dissolved	0.006		0.00002	0.005
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Nickel		Dissolved	0.0012	J	0.0002	0.002
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Potassium		Dissolved	4		0.06	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Selenium		Dissolved	0.00021	J	0.00002	0.001
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Sodium		Dissolved	25		0.02	1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Uranium-238		Dissolved	0.0021		0.00001	0.0002
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Vanadium		Dissolved	0.0014	J	0.00007	0.1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Zinc		Dissolved	0.064		0.0003	0.008
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Mercury		Dissolved	0.0000023	J	0.000001	0.000005
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	178		1	1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Chloride		Total	34		0.009	1
GW-FM-WS	4-Oct-18	8:40	S-ROUTINE	Sulfate		Total	79		0.01	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	43	J	2	4
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Bicarbonate	as HCO3	Total	52	J	2	4
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Aluminum		Dissolved	0.015		0.003	0.009
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Antimony		Dissolved	0.00012	J	0.00009	0.0005
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Arsenic		Dissolved	0.001		0.00004	0.001
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Barium		Dissolved	0.053		0.00002	0.003
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Beryllium		Dissolved	0.0004	J	0.0001	0.0008
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Boron		Dissolved	0.031	J	0.006	0.1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Cadmium		Dissolved	0.00034		0.00003	0.00003
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Calcium		Dissolved	43		0.07	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Cobalt		Dissolved	0.00024	J	0.00009	0.01
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Copper		Dissolved	0.0006	J	0.0001	0.001
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Lead		Dissolved	0.00009	J	0.00003	0.0003
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Magnesium		Dissolved	9		0.1	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Manganese		Dissolved	0.635	DJ	0.002	0.002
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Molybdenum		Dissolved	0.00011	J	0.00002	0.005
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Nickel		Dissolved	0.007		0.0002	0.002
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Potassium		Dissolved	6		0.06	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Selenium		Dissolved	0.0006	J	0.00002	0.001
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Sodium		Dissolved	28		0.02	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Uranium-238		Dissolved	0.0003		0.00001	0.0002
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Vanadium		Dissolved	0.0015	J	0.00007	0.1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Zinc		Dissolved	0.016		0.0003	0.008
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Mercury		Dissolved	0.000004	J	0.000001	0.000005
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	143		1	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Chloride		Total	30		0.009	1
GW-FM-BG	4-Oct-18	10:00	S-ROUTINE	Sulfate		Total	125		0.01	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Alkalinity, total	as CaCO3	Total	6		2	4
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Bicarbonate	as HCO3	Total	7		2	4
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Aluminum		Dissolved	0.356	J	0.003	0.009
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Arsenic		Dissolved	0.00029	J	0.00004	0.001
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Barium		Dissolved	0.02		0.00002	0.003
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Beryllium		Dissolved	0.0005	J	0.0001	0.0008
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Boron		Dissolved	0.053	J	0.006	0.1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Cadmium		Dissolved	0.0192		0.00003	0.00003
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Calcium		Dissolved	29		0.07	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Cobalt		Dissolved	0.0056	J	0.00009	0.01
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Copper		Dissolved	1.05	D	0.01	0.01
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Iron		Dissolved	0.004	J	0.002	0.02
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Lead		Dissolved	0.0007		0.00003	0.0003
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Magnesium		Dissolved	4		0.1	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Manganese		Dissolved	1.06	DJ	0.002	0.002
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Molybdenum		Dissolved	0.00021	J	0.00002	0.005
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Nickel		Dissolved	0.008		0.0002	0.002
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Potassium		Dissolved	4		0.06	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Selenium		Dissolved	0.00011	J	0.00002	0.001
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Silver		Dissolved	0.00003	J	0.00002	0.0002
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Sodium		Dissolved	22		0.02	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Uranium-238		Dissolved	0.0017		0.00001	0.0002
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Vanadium		Dissolved	0.00022	J	0.00007	0.1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Zinc		Dissolved	2.88		0.003	0.008
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Mercury		Dissolved	0.0000028	J	0.000001	0.000005
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	92		1	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Chloride		Total	36		0.009	1
GW-ST-ES	4-Oct-18	12:40	S-ROUTINE	Sulfate		Total	103		0.01	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	29	J	2	4
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Bicarbonate	as HCO3	Total	35	J	2	4
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Aluminum		Dissolved	0.141	J	0.003	0.009
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Antimony		Dissolved	0.00024	J	0.00009	0.0005
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Barium		Dissolved	0.031		0.00002	0.003
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Beryllium		Dissolved	0.0005	J	0.0001	0.0008
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Boron		Dissolved	0.05	J	0.006	0.1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Cadmium		Dissolved	0.0308		0.00003	0.00003
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Calcium		Dissolved	37		0.07	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Cobalt		Dissolved	0.01		0.00009	0.01
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Copper		Dissolved	0.188		0.0001	0.001
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Magnesium		Dissolved	8		0.004	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Manganese		Dissolved	2.5	DJ	0.002	0.002
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Molybdenum		Dissolved	0.0015	J	0.00002	0.005

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Nickel		Dissolved	0.016		0.0002	0.002
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Potassium		Dissolved	5		0.06	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Selenium		Dissolved	0.00014	J	0.00002	0.001
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Sodium		Dissolved	25		0.01	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Uranium-238		Dissolved	0.0011		0.00001	0.0002
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Vanadium		Dissolved	0.0017	J	0.00007	0.1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Zinc		Dissolved	4.79		0.003	0.008
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Mercury		Dissolved	0.0000028	J	0.000001	0.000005
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	125		1	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Chloride		Total	41		0.009	1
GW-ST-WS	4-Oct-18	12:00	S-ROUTINE	Sulfate		Total	119		0.01	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Alkalinity, total	as CaCO3	Total	17		2	4
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Bicarbonate	as HCO3	Total	20		2	4
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Aluminum		Dissolved	0.017	J	0.003	0.009
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Antimony		Dissolved	<0.00009		0.00009	0.0005
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Barium		Dissolved	0.021		0.00002	0.003
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Boron		Dissolved	0.074	J	0.006	0.1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Cadmium		Dissolved	0.00192		0.00003	0.00003
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Calcium		Dissolved	68		0.07	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Cobalt		Dissolved	0.00016	J	0.00009	0.01
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Copper		Dissolved	0.001	J	0.0001	0.001
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Magnesium		Dissolved	16		0.1	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Manganese		Dissolved	0.4	DJ	0.002	0.002
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Molybdenum		Dissolved	0.00003	J	0.00002	0.005
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Nickel		Dissolved	0.022		0.0002	0.002
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Potassium		Dissolved	4		0.06	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Selenium		Dissolved	0.00009	J	0.00002	0.001
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Sodium		Dissolved	24		0.02	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Uranium-238		Dissolved	0.00005	J	0.00001	0.0002
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Vanadium		Dissolved	0.0014	J	0.00007	0.1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Zinc		Dissolved	1.08		0.003	0.008
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Mercury		Dissolved	0.0000041	J	0.000001	0.000005
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	234		1	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Chloride		Total	79		0.009	1
GW-ST-BG	4-Oct-18	11:35	S-ROUTINE	Sulfate		Total	190		0.01	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	150	J	2	4
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Bicarbonate	as HCO3	Total	180	J	2	4

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Antimony		Dissolved	0.00036	J	0.00009	0.0005
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Arsenic		Dissolved	0.002		0.00004	0.001
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Barium		Dissolved	0.036		0.00002	0.003
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Boron		Dissolved	0.024	J	0.006	0.1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Cadmium		Dissolved	0.00012		0.00003	0.00003
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Calcium		Dissolved	75		0.07	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Copper		Dissolved	0.001		0.0001	0.001
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Iron		Dissolved	0.019	J	0.002	0.02
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Magnesium		Dissolved	16		0.1	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Manganese		Dissolved	0.029	J	0.0003	0.001
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Molybdenum		Dissolved	0.005		0.00002	0.005
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Nickel		Dissolved	0.0008	J	0.0002	0.002
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Potassium		Dissolved	3		0.06	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Selenium		Dissolved	0.00024	J	0.00002	0.001
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Sodium		Dissolved	17		0.02	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Uranium-238		Dissolved	0.0158		0.00001	0.0002
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Vanadium		Dissolved	0.00051	J	0.00007	0.1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Zinc		Dissolved	0.0026	J	0.0003	0.008
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Mercury		Dissolved	0.0000022	J	0.000001	0.000005
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	252		1	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Chloride		Total	22		0.009	1
GW-FR-ES	4-Oct-18	13:45	S-ROUTINE	Sulfate		Total	148		0.01	1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	150	J	2	4
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Bicarbonate	as HCO3	Total	180	J	2	4
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Antimony		Dissolved	0.0011		0.00009	0.0005
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Arsenic		Dissolved	0.01		0.00004	0.001
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Barium		Dissolved	0.06		0.00002	0.003
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Boron		Dissolved	<0.006		0.006	0.1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Cadmium		Dissolved	0.00005		0.00003	0.00003
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Calcium		Dissolved	54		0.07	1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Cobalt		Dissolved	0.00036	J	0.00009	0.01
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Iron		Dissolved	0.009	J	0.002	0.02
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Lead		Dissolved	0.00024	J	0.00003	0.0003
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Magnesium		Dissolved	10		0.1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Manganese		Dissolved	0.137	J	0.0003	0.001
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Molybdenum		Dissolved	0.007		0.00002	0.005
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Nickel		Dissolved	0.0004	J	0.0002	0.002
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Potassium		Dissolved	2		0.06	1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Selenium		Dissolved	0.00015	J	0.00002	0.001
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Sodium		Dissolved	12		0.02	1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Uranium-238		Dissolved	0.0133		0.00001	0.0002
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Vanadium		Dissolved	0.009	J	0.00007	0.1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Zinc		Dissolved	0.0022	J	0.0003	0.008
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Mercury		Dissolved	0.0000017	J	0.000001	0.000005
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	176		1	1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Chloride		Total	2		0.009	1
GW-FR-WS	4-Oct-18	14:00	S-ROUTINE	Sulfate		Total	66		0.01	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	290	J	2	4
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Bicarbonate	as HCO3	Total	360	J	2	4
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Aluminum		Dissolved	0.106	J	0.003	0.009
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Antimony		Dissolved	0.0012		0.00009	0.0005
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Arsenic		Dissolved	0.01		0.00004	0.001
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Barium		Dissolved	0.04		0.00002	0.003
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Boron		Dissolved	0.007	J	0.006	0.1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Cadmium		Dissolved	0.00005		0.00003	0.00003
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Calcium		Dissolved	42		0.07	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Cobalt		Dissolved	0.0001	J	0.00009	0.01
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Copper		Dissolved	0.004		0.0001	0.001
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Iron		Dissolved	0.14	J	0.002	0.02
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Lead		Dissolved	0.0004		0.00003	0.0003
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Magnesium		Dissolved	8		0.1	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Manganese		Dissolved	0.058	J	0.0003	0.001
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Molybdenum		Dissolved	0.0039	J	0.00002	0.005
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Nickel		Dissolved	0.0008	J	0.0002	0.002
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Potassium		Dissolved	2		0.06	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Selenium		Dissolved	0.0007	J	0.00002	0.001
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Sodium		Dissolved	9		0.02	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Uranium-238		Dissolved	0.0045		0.00001	0.0002
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Vanadium		Dissolved	0.0061	J	0.00007	0.1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Zinc		Dissolved	0.002	J	0.0003	0.008
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Mercury		Dissolved	0.0000058		0.000001	0.000005
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	138		1	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Chloride		Total	2		0.009	1
GW-FR-BG	4-Oct-18	13:45	S-ROUTINE	Sulfate		Total	47		0.01	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2A	2-Oct-18	13:01	QC-FD	Alkalinity, total	as CaCO3	Total	120		2	4
MW-2A	2-Oct-18	13:01	QC-FD	Bicarbonate	as HCO3	Total	150		2	4
MW-2A	2-Oct-18	13:01	QC-FD	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2A	2-Oct-18	13:01	QC-FD	Antimony		Dissolved	0.00042	J	0.00009	0.0005
MW-2A	2-Oct-18	13:01	QC-FD	Arsenic		Dissolved	0.012		0.00004	0.001
MW-2A	2-Oct-18	13:01	QC-FD	Barium		Dissolved	0.015		0.00002	0.003
MW-2A	2-Oct-18	13:01	QC-FD	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2A	2-Oct-18	13:01	QC-FD	Boron		Dissolved	0.032	J	0.006	0.1
MW-2A	2-Oct-18	13:01	QC-FD	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2A	2-Oct-18	13:01	QC-FD	Calcium		Dissolved	90		0.07	1
MW-2A	2-Oct-18	13:01	QC-FD	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2A	2-Oct-18	13:01	QC-FD	Cobalt		Dissolved	0.00029	J	0.00009	0.01
MW-2A	2-Oct-18	13:01	QC-FD	Copper		Dissolved	0.0002	J	0.0001	0.001
MW-2A	2-Oct-18	13:01	QC-FD	Iron		Dissolved	<0.002		0.002	0.02
MW-2A	2-Oct-18	13:01	QC-FD	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2A	2-Oct-18	13:01	QC-FD	Magnesium		Dissolved	14		0.1	1
MW-2A	2-Oct-18	13:01	QC-FD	Manganese		Dissolved	0.126		0.0003	0.001
MW-2A	2-Oct-18	13:01	QC-FD	Molybdenum		Dissolved	0.009		0.00002	0.005
MW-2A	2-Oct-18	13:01	QC-FD	Nickel		Dissolved	0.0006	J	0.0002	0.002
MW-2A	2-Oct-18	13:01	QC-FD	Potassium		Dissolved	4		0.06	1
MW-2A	2-Oct-18	13:01	QC-FD	Selenium		Dissolved	0.011		0.00002	0.001
MW-2A	2-Oct-18	13:01	QC-FD	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2A	2-Oct-18	13:01	QC-FD	Sodium		Dissolved	27		0.02	1
MW-2A	2-Oct-18	13:01	QC-FD	Uranium-238		Dissolved	0.0454		0.00001	0.0002
MW-2A	2-Oct-18	13:01	QC-FD	Vanadium		Dissolved	0.0028	J	0.00007	0.1
MW-2A	2-Oct-18	13:01	QC-FD	Zinc		Dissolved	0.0016	J	0.0003	0.008
MW-2A	2-Oct-18	13:01	QC-FD	Mercury		Dissolved	0.0000014	J	0.000001	0.000005
MW-2A	2-Oct-18	13:01	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	281		1	1
MW-2A	2-Oct-18	13:01	QC-FD	Chloride		Total	5		0.009	1
MW-2A	2-Oct-18	13:01	QC-FD	Sulfate		Total	207		0.01	1
MW-2A	2-Oct-18	12:35	QC-FB	Alkalinity, total	as CaCO3	Total	2	J	2	4
MW-2A	2-Oct-18	12:35	QC-FB	Bicarbonate	as HCO3	Total	<2		2	4
MW-2A	2-Oct-18	12:35	QC-FB	Aluminum		Dissolved	<0.003		0.003	0.009
MW-2A	2-Oct-18	12:35	QC-FB	Antimony		Dissolved	<0.00009		0.00009	0.0005
MW-2A	2-Oct-18	12:35	QC-FB	Arsenic		Dissolved	<0.00004		0.00004	0.001
MW-2A	2-Oct-18	12:35	QC-FB	Barium		Dissolved	<0.00002		0.00002	0.003
MW-2A	2-Oct-18	12:35	QC-FB	Beryllium		Dissolved	<0.0001		0.0001	0.0008
MW-2A	2-Oct-18	12:35	QC-FB	Boron		Dissolved	<0.006		0.006	0.1
MW-2A	2-Oct-18	12:35	QC-FB	Cadmium		Dissolved	<0.00003		0.00003	0.00003
MW-2A	2-Oct-18	12:35	QC-FB	Calcium		Dissolved	<0.07		0.07	1
MW-2A	2-Oct-18	12:35	QC-FB	Chromium		Dissolved	<0.0002		0.0002	0.01
MW-2A	2-Oct-18	12:35	QC-FB	Cobalt		Dissolved	<0.00009		0.00009	0.01
MW-2A	2-Oct-18	12:35	QC-FB	Copper		Dissolved	0.0003	J	0.0001	0.001
MW-2A	2-Oct-18	12:35	QC-FB	Iron		Dissolved	<0.002		0.002	0.02

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
MW-2A	2-Oct-18	12:35	QC-FB	Lead		Dissolved	<0.00003		0.00003	0.0003
MW-2A	2-Oct-18	12:35	QC-FB	Magnesium		Dissolved	<0.01		0.01	1
MW-2A	2-Oct-18	12:35	QC-FB	Manganese		Dissolved	<0.0003		0.0003	0.001
MW-2A	2-Oct-18	12:35	QC-FB	Molybdenum		Dissolved	0.00004	J	0.00002	0.005
MW-2A	2-Oct-18	12:35	QC-FB	Nickel		Dissolved	<0.0002		0.0002	0.002
MW-2A	2-Oct-18	12:35	QC-FB	Potassium		Dissolved	<0.06		0.06	1
MW-2A	2-Oct-18	12:35	QC-FB	Selenium		Dissolved	<0.00002		0.00002	0.001
MW-2A	2-Oct-18	12:35	QC-FB	Silver		Dissolved	<0.00002		0.00002	0.0002
MW-2A	2-Oct-18	12:35	QC-FB	Sodium		Dissolved	<0.02		0.02	1
MW-2A	2-Oct-18	12:35	QC-FB	Uranium-238		Dissolved	0.00002	J	0.00001	0.0002
MW-2A	2-Oct-18	12:35	QC-FB	Vanadium		Dissolved	<0.00007		0.00007	0.1
MW-2A	2-Oct-18	12:35	QC-FB	Zinc		Dissolved	0.0007	J	0.0003	0.008
MW-2A	2-Oct-18	12:35	QC-FB	Mercury		Dissolved	<0.000001		0.000001	0.000005
MW-2A	2-Oct-18	12:35	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1		1	1
MW-2A	2-Oct-18	12:35	QC-FB	Chloride		Total	<0.009		0.009	1
MW-2A	2-Oct-18	12:35	QC-FB	Sulfate		Total	0.05	J	0.01	1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Alkalinity, total	as CaCO3	Total	140		2	4
GW-RK-BG	3-Oct-18	10:20	QC-FD	Bicarbonate	as HCO3	Total	170		2	4
GW-RK-BG	3-Oct-18	10:20	QC-FD	Aluminum		Dissolved	0.004	J	0.003	0.009
GW-RK-BG	3-Oct-18	10:20	QC-FD	Antimony		Dissolved	0.00017	J	0.00009	0.0005
GW-RK-BG	3-Oct-18	10:20	QC-FD	Arsenic		Dissolved	0.007		0.00004	0.001
GW-RK-BG	3-Oct-18	10:20	QC-FD	Barium		Dissolved	0.078		0.00002	0.003
GW-RK-BG	3-Oct-18	10:20	QC-FD	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-RK-BG	3-Oct-18	10:20	QC-FD	Boron		Dissolved	0.04	J	0.006	0.1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-RK-BG	3-Oct-18	10:20	QC-FD	Calcium		Dissolved	62		0.07	1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-RK-BG	3-Oct-18	10:20	QC-FD	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-RK-BG	3-Oct-18	10:20	QC-FD	Copper		Dissolved	0.0003	J	0.0001	0.001
GW-RK-BG	3-Oct-18	10:20	QC-FD	Iron		Dissolved	<0.002		0.002	0.02
GW-RK-BG	3-Oct-18	10:20	QC-FD	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-RK-BG	3-Oct-18	10:20	QC-FD	Magnesium		Dissolved	14		0.1	1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Manganese		Dissolved	0.0006	J	0.0003	0.001
GW-RK-BG	3-Oct-18	10:20	QC-FD	Molybdenum		Dissolved	0.013		0.00002	0.005
GW-RK-BG	3-Oct-18	10:20	QC-FD	Nickel		Dissolved	<0.0002		0.0002	0.002
GW-RK-BG	3-Oct-18	10:20	QC-FD	Potassium		Dissolved	5		0.06	1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Selenium		Dissolved	0.001		0.00002	0.001
GW-RK-BG	3-Oct-18	10:20	QC-FD	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-RK-BG	3-Oct-18	10:20	QC-FD	Sodium		Dissolved	41		0.02	1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Uranium-238		Dissolved	0.0073		0.00001	0.0002
GW-RK-BG	3-Oct-18	10:20	QC-FD	Vanadium		Dissolved	0.0048	J	0.00007	0.1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Zinc		Dissolved	0.0009	J	0.0003	0.008
GW-RK-BG	3-Oct-18	10:20	QC-FD	Mercury		Dissolved	0.0000013	J	0.000001	0.000005
GW-RK-BG	3-Oct-18	10:20	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	212		1	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-RK-BG	3-Oct-18	10:20	QC-FD	Chloride		Total	39		0.009	1
GW-RK-BG	3-Oct-18	10:20	QC-FD	Sulfate		Total	118		0.01	1
P-114	3-Oct-18	14:00	QC-FB	Alkalinity, total	as CaCO3	Total	2	J	2	4
P-114	3-Oct-18	14:00	QC-FB	Bicarbonate	as HCO3	Total	2	J	2	4
P-114	3-Oct-18	14:00	QC-FB	Aluminum		Dissolved	<0.003		0.003	0.009
P-114	3-Oct-18	14:00	QC-FB	Antimony		Dissolved	<0.00009		0.00009	0.0005
P-114	3-Oct-18	14:00	QC-FB	Arsenic		Dissolved	<0.00004		0.00004	0.001
P-114	3-Oct-18	14:00	QC-FB	Barium		Dissolved	<0.00002		0.00002	0.003
P-114	3-Oct-18	14:00	QC-FB	Beryllium		Dissolved	<0.0001		0.0001	0.0008
P-114	3-Oct-18	14:00	QC-FB	Boron		Dissolved	<0.006		0.006	0.1
P-114	3-Oct-18	14:00	QC-FB	Cadmium		Dissolved	<0.00003		0.00003	0.00003
P-114	3-Oct-18	14:00	QC-FB	Calcium		Dissolved	<0.07		0.07	1
P-114	3-Oct-18	14:00	QC-FB	Chromium		Dissolved	<0.0002		0.0002	0.01
P-114	3-Oct-18	14:00	QC-FB	Cobalt		Dissolved	<0.00009		0.00009	0.01
P-114	3-Oct-18	14:00	QC-FB	Copper		Dissolved	0.0004	J	0.0001	0.001
P-114	3-Oct-18	14:00	QC-FB	Iron		Dissolved	<0.002		0.002	0.02
P-114	3-Oct-18	14:00	QC-FB	Lead		Dissolved	<0.00003		0.00003	0.0003
P-114	3-Oct-18	14:00	QC-FB	Magnesium		Dissolved	<0.01		0.01	1
P-114	3-Oct-18	14:00	QC-FB	Manganese		Dissolved	<0.0003		0.0003	0.001
P-114	3-Oct-18	14:00	QC-FB	Molybdenum		Dissolved	0.00003	J	0.00002	0.005
P-114	3-Oct-18	14:00	QC-FB	Nickel		Dissolved	<0.0002		0.0002	0.002
P-114	3-Oct-18	14:00	QC-FB	Potassium		Dissolved	<0.06		0.06	1
P-114	3-Oct-18	14:00	QC-FB	Selenium		Dissolved	<0.00002		0.00002	0.001
P-114	3-Oct-18	14:00	QC-FB	Silver		Dissolved	<0.00002		0.00002	0.0002
P-114	3-Oct-18	14:00	QC-FB	Sodium		Dissolved	<0.02		0.02	1
P-114	3-Oct-18	14:00	QC-FB	Uranium-238		Dissolved	<0.00001		0.00001	0.0002
P-114	3-Oct-18	14:00	QC-FB	Vanadium		Dissolved	<0.00007		0.00007	0.1
P-114	3-Oct-18	14:00	QC-FB	Zinc		Dissolved	0.0011	J	0.0003	0.008
P-114	3-Oct-18	14:00	QC-FB	Mercury		Dissolved	<0.000001		0.000001	0.000005
P-114	3-Oct-18	14:00	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1		1	1
P-114	3-Oct-18	14:00	QC-FB	Chloride		Total	<0.009		0.009	1
P-114	3-Oct-18	14:00	QC-FB	Sulfate		Total	0.01	J	0.01	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Alkalinity, total	as CaCO3	Total	220		2	4
GW-FR-BG	4-Oct-18	13:47	QC-FD	Bicarbonate	as HCO3	Total	270		2	4
GW-FR-BG	4-Oct-18	13:47	QC-FD	Aluminum		Dissolved	<0.003		0.003	0.009
GW-FR-BG	4-Oct-18	13:47	QC-FD	Antimony		Dissolved	0.0013		0.00009	0.0005
GW-FR-BG	4-Oct-18	13:47	QC-FD	Arsenic		Dissolved	0.009		0.00004	0.001
GW-FR-BG	4-Oct-18	13:47	QC-FD	Barium		Dissolved	0.041		0.00002	0.003
GW-FR-BG	4-Oct-18	13:47	QC-FD	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FR-BG	4-Oct-18	13:47	QC-FD	Boron		Dissolved	0.008	J	0.006	0.1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Cadmium		Dissolved	0.00006		0.00003	0.00003
GW-FR-BG	4-Oct-18	13:47	QC-FD	Calcium		Dissolved	43		0.07	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FR-BG	4-Oct-18	13:47	QC-FD	Cobalt		Dissolved	0.00016	J	0.00009	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-FR-BG	4-Oct-18	13:47	QC-FD	Copper		Dissolved	0.003		0.0001	0.001
GW-FR-BG	4-Oct-18	13:47	QC-FD	Iron		Dissolved	0.006	J	0.002	0.02
GW-FR-BG	4-Oct-18	13:47	QC-FD	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-FR-BG	4-Oct-18	13:47	QC-FD	Magnesium		Dissolved	8		0.1	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Manganese		Dissolved	0.159		0.0003	0.001
GW-FR-BG	4-Oct-18	13:47	QC-FD	Molybdenum		Dissolved	0.0039	J	0.00002	0.005
GW-FR-BG	4-Oct-18	13:47	QC-FD	Nickel		Dissolved	0.0009	J	0.0002	0.002
GW-FR-BG	4-Oct-18	13:47	QC-FD	Potassium		Dissolved	1		0.06	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Selenium		Dissolved	0.0007	J	0.00002	0.001
GW-FR-BG	4-Oct-18	13:47	QC-FD	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FR-BG	4-Oct-18	13:47	QC-FD	Sodium		Dissolved	9		0.02	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Uranium-238		Dissolved	0.0045		0.00001	0.0002
GW-FR-BG	4-Oct-18	13:47	QC-FD	Vanadium		Dissolved	0.0073	J	0.00007	0.1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Zinc		Dissolved	0.0019	J	0.0003	0.008
GW-FR-BG	4-Oct-18	13:47	QC-FD	Mercury		Dissolved	0.0000023	J	0.000001	0.000005
GW-FR-BG	4-Oct-18	13:47	QC-FD	Hardness, Ca, Mg	as CaCO3	NA	141		1	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Chloride		Total	2		0.009	1
GW-FR-BG	4-Oct-18	13:47	QC-FD	Sulfate		Total	49		0.01	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Alkalinity, total	as CaCO3	Total	2	J	2	4
GW-FR-BG	4-Oct-18	13:30	QC-FB	Bicarbonate	as HCO3	Total	2	J	2	4
GW-FR-BG	4-Oct-18	13:30	QC-FB	Aluminum		Dissolved	<0.003		0.003	0.009
GW-FR-BG	4-Oct-18	13:30	QC-FB	Antimony		Dissolved	<0.00009		0.00009	0.0005
GW-FR-BG	4-Oct-18	13:30	QC-FB	Arsenic		Dissolved	<0.00004		0.00004	0.001
GW-FR-BG	4-Oct-18	13:30	QC-FB	Barium		Dissolved	<0.00002		0.00002	0.003
GW-FR-BG	4-Oct-18	13:30	QC-FB	Beryllium		Dissolved	<0.0001		0.0001	0.0008
GW-FR-BG	4-Oct-18	13:30	QC-FB	Boron		Dissolved	<0.006		0.006	0.1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Cadmium		Dissolved	<0.00003		0.00003	0.00003
GW-FR-BG	4-Oct-18	13:30	QC-FB	Calcium		Dissolved	<0.07		0.07	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Chromium		Dissolved	<0.0002		0.0002	0.01
GW-FR-BG	4-Oct-18	13:30	QC-FB	Cobalt		Dissolved	<0.00009		0.00009	0.01
GW-FR-BG	4-Oct-18	13:30	QC-FB	Copper		Dissolved	0.0002	J	0.0001	0.001
GW-FR-BG	4-Oct-18	13:30	QC-FB	Iron		Dissolved	<0.002		0.002	0.02
GW-FR-BG	4-Oct-18	13:30	QC-FB	Lead		Dissolved	<0.00003		0.00003	0.0003
GW-FR-BG	4-Oct-18	13:30	QC-FB	Magnesium		Dissolved	<0.01		0.01	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Manganese		Dissolved	<0.0003		0.0003	0.001
GW-FR-BG	4-Oct-18	13:30	QC-FB	Molybdenum		Dissolved	<0.00002		0.00002	0.005
GW-FR-BG	4-Oct-18	13:30	QC-FB	Nickel		Dissolved	<0.0002		0.0002	0.002
GW-FR-BG	4-Oct-18	13:30	QC-FB	Potassium		Dissolved	<0.06		0.06	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Selenium		Dissolved	<0.00002		0.00002	0.001
GW-FR-BG	4-Oct-18	13:30	QC-FB	Silver		Dissolved	<0.00002		0.00002	0.0002
GW-FR-BG	4-Oct-18	13:30	QC-FB	Sodium		Dissolved	0.18	J	0.02	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Uranium-238		Dissolved	<0.00001		0.00001	0.0002
GW-FR-BG	4-Oct-18	13:30	QC-FB	Vanadium		Dissolved	<0.00007		0.00007	0.1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Zinc		Dissolved	0.0005	J	0.0003	0.008

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
GW-FR-BG	4-Oct-18	13:30	QC-FB	Mercury		Dissolved	0.0000011	J	0.000001	0.000005
GW-FR-BG	4-Oct-18	13:30	QC-FB	Hardness, Ca, Mg	as CaCO3	NA	<1		1	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Chloride		Total	0.032	J	0.009	1
GW-FR-BG	4-Oct-18	13:30	QC-FB	Sulfate		Total	0.08	J	0.01	1

APPENDIX F

Vadose Zone Water Data

Table F-1. Vadose zone water sample results in the Streamside Tailings Operable Unit, 2018.

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-01	12-Jul-18	16:10	S-ROUTINE	Alkalinity, total	as CaCO3	Total	130		2	4
LYS-01	12-Jul-18	16:10	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-01	12-Jul-18	16:10	S-ROUTINE	Antimony		Dissolved	0.0001	J	0.00009	0.0005
LYS-01	12-Jul-18	16:10	S-ROUTINE	Arsenic		Dissolved	0.003		0.00004	0.001
LYS-01	12-Jul-18	16:10	S-ROUTINE	Barium		Dissolved	0.032		0.00002	0.003
LYS-01	12-Jul-18	16:10	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-01	12-Jul-18	16:10	S-ROUTINE	Bicarbonate	as HCO3	Total	160		2	4
LYS-01	12-Jul-18	16:10	S-ROUTINE	Boron		Dissolved	0.054	J	0.006	0.1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-01	12-Jul-18	16:10	S-ROUTINE	Calcium		Dissolved	79		0.07	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Chloride		Total	28		0.009	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
LYS-01	12-Jul-18	16:10	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
LYS-01	12-Jul-18	16:10	S-ROUTINE	Copper		Dissolved	0.001	J	0.0001	0.001
LYS-01	12-Jul-18	16:10	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	266		1	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-01	12-Jul-18	16:10	S-ROUTINE	Lead		Dissolved	0.00006	J	0.00003	0.0003
LYS-01	12-Jul-18	16:10	S-ROUTINE	Magnesium		Dissolved	17		0.1	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Manganese		Dissolved	0.0003	J	0.0003	0.001
LYS-01	12-Jul-18	16:10	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-01	12-Jul-18	16:10	S-ROUTINE	Molybdenum		Dissolved	0.0034	J	0.00002	0.005
LYS-01	12-Jul-18	16:10	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
LYS-01	12-Jul-18	16:10	S-ROUTINE	Potassium		Dissolved	3		0.06	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Selenium		Dissolved	0.005		0.00002	0.001
LYS-01	12-Jul-18	16:10	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-01	12-Jul-18	16:10	S-ROUTINE	Sodium		Dissolved	30		0.8	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Sulfate		Total	184		0.01	1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Uranium-238		Dissolved	0.0584		0.00001	0.0002
LYS-01	12-Jul-18	16:10	S-ROUTINE	Vanadium		Dissolved	0.002	J	0.00007	0.1
LYS-01	12-Jul-18	16:10	S-ROUTINE	Zinc		Dissolved	0.006	J	0.0003	0.008
LYS-02	12-Jul-18	16:30	S-ROUTINE	Alkalinity, total	as CaCO3	Total	570		2	4
LYS-02	12-Jul-18	16:30	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-02	12-Jul-18	16:30	S-ROUTINE	Antimony		Dissolved	0.0007		0.00009	0.0005
LYS-02	12-Jul-18	16:30	S-ROUTINE	Arsenic		Dissolved	0.02		0.0002	0.001
LYS-02	12-Jul-18	16:30	S-ROUTINE	Barium		Dissolved	0.01		0.0001	0.003
LYS-02	12-Jul-18	16:30	S-ROUTINE	Beryllium		Dissolved	<0.0005		0.0005	0.0008
LYS-02	12-Jul-18	16:30	S-ROUTINE	Bicarbonate	as HCO3	Total	690		2	4
LYS-02	12-Jul-18	16:30	S-ROUTINE	Boron		Dissolved	0.6		0.03	0.1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Cadmium		Dissolved	0.00004		0.00003	0.00003
LYS-02	12-Jul-18	16:30	S-ROUTINE	Calcium		Dissolved	353		0.3	1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Chloride		Total	70		0.2	1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Chromium		Dissolved	0.0017	J	0.0009	0.01
LYS-02	12-Jul-18	16:30	S-ROUTINE	Cobalt		Dissolved	<0.0004		0.0004	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-02	12-Jul-18	16:30	S-ROUTINE	Copper		Dissolved	0.01		0.0007	0.001
LYS-02	12-Jul-18	16:30	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	1770		1	1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Iron		Dissolved	<0.009		0.009	0.02
LYS-02	12-Jul-18	16:30	S-ROUTINE	Lead		Dissolved	<0.0001		0.0001	0.0003
LYS-02	12-Jul-18	16:30	S-ROUTINE	Magnesium		Dissolved	215		0.7	1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
LYS-02	12-Jul-18	16:30	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-02	12-Jul-18	16:30	S-ROUTINE	Molybdenum		Dissolved	0.039		0.00002	0.005
LYS-02	12-Jul-18	16:30	S-ROUTINE	Nickel		Dissolved	<0.001		0.001	0.002
LYS-02	12-Jul-18	16:30	S-ROUTINE	Potassium		Dissolved	2		0.3	1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Selenium		Dissolved	0.02		0.0001	0.001
LYS-02	12-Jul-18	16:30	S-ROUTINE	Silver		Dissolved	<0.0001		0.0001	0.0002
LYS-02	12-Jul-18	16:30	S-ROUTINE	Sodium		Dissolved	2310	D	4	4
LYS-02	12-Jul-18	16:30	S-ROUTINE	Sulfate		Total	6110	D	0.2	2
LYS-02	12-Jul-18	16:30	S-ROUTINE	Uranium-238		Dissolved	1.13		0.00005	0.0002
LYS-02	12-Jul-18	16:30	S-ROUTINE	Vanadium		Dissolved	0.028	J	0.0003	0.1
LYS-02	12-Jul-18	16:30	S-ROUTINE	Zinc		Dissolved	0.036		0.001	0.008
LYS-03	12-Jul-18	15:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	320		2	4
LYS-03	12-Jul-18	15:45	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-03	12-Jul-18	15:45	S-ROUTINE	Antimony		Dissolved	0.00021	J	0.00009	0.0005
LYS-03	12-Jul-18	15:45	S-ROUTINE	Arsenic		Dissolved	0.005		0.00004	0.001
LYS-03	12-Jul-18	15:45	S-ROUTINE	Barium		Dissolved	0.021		0.00002	0.003
LYS-03	12-Jul-18	15:45	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-03	12-Jul-18	15:45	S-ROUTINE	Bicarbonate	as HCO3	Total	380		2	4
LYS-03	12-Jul-18	15:45	S-ROUTINE	Boron		Dissolved	0.1	J	0.006	0.1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Cadmium		Dissolved	0.00003		0.00003	0.00003
LYS-03	12-Jul-18	15:45	S-ROUTINE	Calcium		Dissolved	286		0.07	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Chloride		Total	51		0.009	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Chromium		Dissolved	0.0006	J	0.0002	0.01
LYS-03	12-Jul-18	15:45	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
LYS-03	12-Jul-18	15:45	S-ROUTINE	Copper		Dissolved	0.001		0.0001	0.001
LYS-03	12-Jul-18	15:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	1320		1	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-03	12-Jul-18	15:45	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
LYS-03	12-Jul-18	15:45	S-ROUTINE	Magnesium		Dissolved	147		0.1	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Manganese		Dissolved	0.007		0.0003	0.001
LYS-03	12-Jul-18	15:45	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-03	12-Jul-18	15:45	S-ROUTINE	Molybdenum		Dissolved	0.0039	J	0.00002	0.005
LYS-03	12-Jul-18	15:45	S-ROUTINE	Nickel		Dissolved	0.0007	J	0.0002	0.002
LYS-03	12-Jul-18	15:45	S-ROUTINE	Potassium		Dissolved	6		0.06	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Selenium		Dissolved	0.015		0.00002	0.001
LYS-03	12-Jul-18	15:45	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-03	12-Jul-18	15:45	S-ROUTINE	Sodium		Dissolved	145		0.8	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Sulfate		Total	1290		0.05	1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Uranium-238		Dissolved	0.121		0.00001	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-03	12-Jul-18	15:45	S-ROUTINE	Vanadium		Dissolved	0.023	J	0.00007	0.1
LYS-03	12-Jul-18	15:45	S-ROUTINE	Zinc		Dissolved	0.026		0.0003	0.008
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Alkalinity, total	as CaCO3	Total	350		2	4
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Aluminum		Dissolved	0.004	J	0.003	0.009
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Antimony		Dissolved	0.0006		0.0002	0.0005
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Arsenic		Dissolved	0.003		0.00004	0.001
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Barium		Dissolved	0.152		0.00005	0.003
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Bicarbonate	as HCO3	Total	430		2	4
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Boron		Dissolved	0.2		0.006	0.1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Cadmium		Dissolved	0.00005		0.00003	0.00003
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Calcium		Dissolved	120		0.07	1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Chloride		Total	28		0.2	1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Chromium		Dissolved	0.0006	J	0.0002	0.01
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Cobalt		Dissolved	0.00025	J	0.00009	0.01
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Copper		Dissolved	0.007		0.0001	0.001
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	504		1	1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Iron		Dissolved	<0.01		0.01	0.02
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Lead		Dissolved	0.00012	J	0.00003	0.0003
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Magnesium		Dissolved	49		0.1	1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Manganese		Dissolved	0.052		0.0003	0.001
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Molybdenum		Dissolved	0.018		0.00002	0.005
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Nickel		Dissolved	0.004		0.0002	0.002
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Potassium		Dissolved	29		0.01	1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Selenium		Dissolved	0.006		0.00002	0.001
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Silver		Dissolved	<0.00005		0.00005	0.0002
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Sodium		Dissolved	22		0.01	1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Sulfate		Total	173	D	0.2	2
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Uranium-238		Dissolved	0.0206		0.00001	0.0002
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Vanadium		Dissolved	0.093	J	0.00007	0.1
LYS-04R	12-Jul-18	16:35	S-ROUTINE	Zinc		Dissolved	0.014		0.0003	0.008
LYS-05	12-Jul-18	16:45	S-ROUTINE	Alkalinity, total	as CaCO3	Total	280		2	4
LYS-05	12-Jul-18	16:45	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-05	12-Jul-18	16:45	S-ROUTINE	Antimony		Dissolved	0.0014		0.00009	0.0005
LYS-05	12-Jul-18	16:45	S-ROUTINE	Arsenic		Dissolved	0.02		0.00004	0.001
LYS-05	12-Jul-18	16:45	S-ROUTINE	Barium		Dissolved	0.013		0.00002	0.003
LYS-05	12-Jul-18	16:45	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-05	12-Jul-18	16:45	S-ROUTINE	Bicarbonate	as HCO3	Total	350		2	4
LYS-05	12-Jul-18	16:45	S-ROUTINE	Boron		Dissolved	1.8		0.006	0.1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Cadmium		Dissolved	0.00016		0.00003	0.00003
LYS-05	12-Jul-18	16:45	S-ROUTINE	Calcium		Dissolved	436		0.07	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Chloride		Total	6		0.09	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Chromium		Dissolved	0.0038	J	0.0002	0.01
LYS-05	12-Jul-18	16:45	S-ROUTINE	Cobalt		Dissolved	0.00009	J	0.00009	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-05	12-Jul-18	16:45	S-ROUTINE	Copper		Dissolved	0.013		0.0001	0.001
LYS-05	12-Jul-18	16:45	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	1620		1	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-05	12-Jul-18	16:45	S-ROUTINE	Lead		Dissolved	0.00006	J	0.00003	0.0003
LYS-05	12-Jul-18	16:45	S-ROUTINE	Magnesium		Dissolved	128		0.1	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Manganese		Dissolved	0.005		0.0003	0.001
LYS-05	12-Jul-18	16:45	S-ROUTINE	Mercury		Dissolved	0.0000046	J	0.000002	0.000005
LYS-05	12-Jul-18	16:45	S-ROUTINE	Molybdenum		Dissolved	0.023		0.00002	0.005
LYS-05	12-Jul-18	16:45	S-ROUTINE	Nickel		Dissolved	0.0007	J	0.0002	0.002
LYS-05	12-Jul-18	16:45	S-ROUTINE	Potassium		Dissolved	20		0.06	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Selenium		Dissolved	0.006		0.00002	0.001
LYS-05	12-Jul-18	16:45	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-05	12-Jul-18	16:45	S-ROUTINE	Sodium		Dissolved	1140		0.8	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Sulfate		Total	4000		0.1	1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Uranium-238		Dissolved	1.68		0.00005	0.0002
LYS-05	12-Jul-18	16:45	S-ROUTINE	Vanadium		Dissolved	0.0047	J	0.00007	0.1
LYS-05	12-Jul-18	16:45	S-ROUTINE	Zinc		Dissolved	0.021		0.0003	0.008
LYS-06	12-Jul-18	16:00	S-ROUTINE	Alkalinity, total	as CaCO3	Total	130		2	4
LYS-06	12-Jul-18	16:00	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-06	12-Jul-18	16:00	S-ROUTINE	Antimony		Dissolved	0.00026	J	0.00009	0.0005
LYS-06	12-Jul-18	16:00	S-ROUTINE	Arsenic		Dissolved	0.005		0.00004	0.001
LYS-06	12-Jul-18	16:00	S-ROUTINE	Barium		Dissolved	0.029		0.00002	0.003
LYS-06	12-Jul-18	16:00	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-06	12-Jul-18	16:00	S-ROUTINE	Bicarbonate	as HCO3	Total	150		2	4
LYS-06	12-Jul-18	16:00	S-ROUTINE	Boron		Dissolved	0.1		0.006	0.1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-06	12-Jul-18	16:00	S-ROUTINE	Calcium		Dissolved	31		0.07	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Chloride		Total	6		0.009	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Chromium		Dissolved	0.0003	J	0.0002	0.01
LYS-06	12-Jul-18	16:00	S-ROUTINE	Cobalt		Dissolved	0.00014	J	0.00009	0.01
LYS-06	12-Jul-18	16:00	S-ROUTINE	Copper		Dissolved	0.006		0.0001	0.001
LYS-06	12-Jul-18	16:00	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	98		1	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Iron		Dissolved	<0.01		0.01	0.02
LYS-06	12-Jul-18	16:00	S-ROUTINE	Lead		Dissolved	0.00006	J	0.00003	0.0003
LYS-06	12-Jul-18	16:00	S-ROUTINE	Magnesium		Dissolved	5		0.1	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Manganese		Dissolved	0.003		0.0003	0.001
LYS-06	12-Jul-18	16:00	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-06	12-Jul-18	16:00	S-ROUTINE	Molybdenum		Dissolved	0.008		0.00002	0.005
LYS-06	12-Jul-18	16:00	S-ROUTINE	Nickel		Dissolved	0.0004	J	0.0002	0.002
LYS-06	12-Jul-18	16:00	S-ROUTINE	Potassium		Dissolved	0.09	J	0.06	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Selenium		Dissolved	0.0005	J	0.00002	0.001
LYS-06	12-Jul-18	16:00	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-06	12-Jul-18	16:00	S-ROUTINE	Sodium		Dissolved	69		0.02	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Sulfate		Total	108		0.01	1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Uranium-238		Dissolved	0.004		0.00001	0.0002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-06	12-Jul-18	16:00	S-ROUTINE	Vanadium		Dissolved	0.022	J	0.00007	0.1
LYS-06	12-Jul-18	16:00	S-ROUTINE	Zinc		Dissolved	0.106		0.0003	0.008
LYS-07	12-Jul-18	16:50	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-07	12-Jul-18	16:50	S-ROUTINE	Antimony		Dissolved	0.00035	J	0.00009	0.0005
LYS-07	12-Jul-18	16:50	S-ROUTINE	Arsenic		Dissolved	0.006		0.00004	0.001
LYS-07	12-Jul-18	16:50	S-ROUTINE	Barium		Dissolved	0.007		0.00002	0.003
LYS-07	12-Jul-18	16:50	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-07	12-Jul-18	16:50	S-ROUTINE	Boron		Dissolved	0.2		0.006	0.1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-07	12-Jul-18	16:50	S-ROUTINE	Calcium		Dissolved	226		0.07	1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Chloride		Total	65		0.2	1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Chromium		Dissolved	0.0016	J	0.0002	0.01
LYS-07	12-Jul-18	16:50	S-ROUTINE	Cobalt		Dissolved	0.00031	J	0.00009	0.01
LYS-07	12-Jul-18	16:50	S-ROUTINE	Copper		Dissolved	0.004		0.0001	0.001
LYS-07	12-Jul-18	16:50	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	788		1	1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-07	12-Jul-18	16:50	S-ROUTINE	Lead		Dissolved	0.00011	J	0.00003	0.0003
LYS-07	12-Jul-18	16:50	S-ROUTINE	Magnesium		Dissolved	54		0.1	1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Manganese		Dissolved	0.001		0.0003	0.001
LYS-07	12-Jul-18	16:50	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-07	12-Jul-18	16:50	S-ROUTINE	Molybdenum		Dissolved	0.105		0.00002	0.005
LYS-07	12-Jul-18	16:50	S-ROUTINE	Nickel		Dissolved	0.0004	J	0.0002	0.002
LYS-07	12-Jul-18	16:50	S-ROUTINE	Potassium		Dissolved	10		0.06	1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Selenium		Dissolved	0.002		0.00002	0.001
LYS-07	12-Jul-18	16:50	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-07	12-Jul-18	16:50	S-ROUTINE	Sodium		Dissolved	550		0.8	1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Sulfate		Total	1760	D	0.2	2
LYS-07	12-Jul-18	16:50	S-ROUTINE	Uranium-238		Dissolved	0.214		0.00001	0.0002
LYS-07	12-Jul-18	16:50	S-ROUTINE	Vanadium		Dissolved	0.0048	J	0.00007	0.1
LYS-07	12-Jul-18	16:50	S-ROUTINE	Zinc		Dissolved	0.028		0.0003	0.008
LYS-08	12-Jul-18	15:50	S-ROUTINE	Aluminum		Dissolved	0.003	J	0.003	0.009
LYS-08	12-Jul-18	15:50	S-ROUTINE	Antimony		Dissolved	0.0006		0.00009	0.0005
LYS-08	12-Jul-18	15:50	S-ROUTINE	Arsenic		Dissolved	0.117		0.00004	0.001
LYS-08	12-Jul-18	15:50	S-ROUTINE	Barium		Dissolved	0.037		0.00005	0.003
LYS-08	12-Jul-18	15:50	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-08	12-Jul-18	15:50	S-ROUTINE	Boron		Dissolved	0.2		0.006	0.1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-08	12-Jul-18	15:50	S-ROUTINE	Calcium		Dissolved	31		0.07	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Chloride		Total	0.23	J	0.09	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Chromium		Dissolved	0.0012	J	0.0002	0.01
LYS-08	12-Jul-18	15:50	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
LYS-08	12-Jul-18	15:50	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
LYS-08	12-Jul-18	15:50	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	102		1	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Iron		Dissolved	<0.01		0.01	0.02
LYS-08	12-Jul-18	15:50	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-08	12-Jul-18	15:50	S-ROUTINE	Magnesium		Dissolved	6		0.1	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Manganese		Dissolved	0.002		0.0003	0.001
LYS-08	12-Jul-18	15:50	S-ROUTINE	Mercury		Dissolved	<0.000002		0.000002	0.000005
LYS-08	12-Jul-18	15:50	S-ROUTINE	Molybdenum		Dissolved	0.019		0.00002	0.005
LYS-08	12-Jul-18	15:50	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
LYS-08	12-Jul-18	15:50	S-ROUTINE	Potassium		Dissolved	2		0.06	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Selenium		Dissolved	0.00024	J	0.00002	0.001
LYS-08	12-Jul-18	15:50	S-ROUTINE	Silver		Dissolved	<0.00005		0.00005	0.0002
LYS-08	12-Jul-18	15:50	S-ROUTINE	Sodium		Dissolved	46		0.02	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Sulfate		Total	21		0.1	1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Uranium-238		Dissolved	0.0019		0.00001	0.0002
LYS-08	12-Jul-18	15:50	S-ROUTINE	Vanadium		Dissolved	0.076	J	0.00007	0.1
LYS-08	12-Jul-18	15:50	S-ROUTINE	Zinc		Dissolved	0.016		0.0003	0.008
LYS-01	2-Oct-18	14:31	S-ROUTINE	Alkalinity, total	as CaCO3	Total	160		2	4
LYS-01	2-Oct-18	14:31	S-ROUTINE	Bicarbonate	as HCO3	Total	190		2	4
LYS-01	2-Oct-18	14:31	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-01	2-Oct-18	14:31	S-ROUTINE	Antimony		Dissolved	0.0001	J	0.00009	0.0005
LYS-01	2-Oct-18	14:31	S-ROUTINE	Arsenic		Dissolved	0.004		0.00004	0.001
LYS-01	2-Oct-18	14:31	S-ROUTINE	Barium		Dissolved	0.044		0.00002	0.003
LYS-01	2-Oct-18	14:31	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-01	2-Oct-18	14:31	S-ROUTINE	Boron		Dissolved	0.059	J	0.006	0.1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-01	2-Oct-18	14:31	S-ROUTINE	Calcium		Dissolved	103		0.07	1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Chromium		Dissolved	<0.0002		0.0002	0.01
LYS-01	2-Oct-18	14:31	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
LYS-01	2-Oct-18	14:31	S-ROUTINE	Copper		Dissolved	0.0008	J	0.0001	0.001
LYS-01	2-Oct-18	14:31	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-01	2-Oct-18	14:31	S-ROUTINE	Lead		Dissolved	0.00009	J	0.00003	0.0003
LYS-01	2-Oct-18	14:31	S-ROUTINE	Magnesium		Dissolved	22		0.1	1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Manganese		Dissolved	0.003		0.0003	0.001
LYS-01	2-Oct-18	14:31	S-ROUTINE	Molybdenum		Dissolved	0.0049	J	0.00002	0.005
LYS-01	2-Oct-18	14:31	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002
LYS-01	2-Oct-18	14:31	S-ROUTINE	Potassium		Dissolved	4		0.06	1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Selenium		Dissolved	0.004		0.00002	0.001
LYS-01	2-Oct-18	14:31	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-01	2-Oct-18	14:31	S-ROUTINE	Sodium		Dissolved	35		0.02	1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Uranium-238		Dissolved	0.0814		0.00001	0.0002
LYS-01	2-Oct-18	14:31	S-ROUTINE	Vanadium		Dissolved	0.0024	J	0.00007	0.1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Zinc		Dissolved	0.0044	J	0.0003	0.008
LYS-01	2-Oct-18	14:31	S-ROUTINE	Mercury		Dissolved	0.000002	J	0.000001	0.000005
LYS-01	2-Oct-18	14:31	S-ROUTINE	Chloride		Total	40		0.009	1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Sulfate		Total	231		0.01	1
LYS-01	2-Oct-18	14:31	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	345		1	1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Alkalinity, total	as CaCO3	Total	870		2	4
LYS-02	2-Oct-18	14:48	S-ROUTINE	Bicarbonate	as HCO3	Total	1100		2	4

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-02	2-Oct-18	14:48	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-02	2-Oct-18	14:48	S-ROUTINE	Antimony		Dissolved	0.0009		0.00009	0.0005
LYS-02	2-Oct-18	14:48	S-ROUTINE	Arsenic		Dissolved	0.024		0.00004	0.001
LYS-02	2-Oct-18	14:48	S-ROUTINE	Barium		Dissolved	0.015		0.00002	0.003
LYS-02	2-Oct-18	14:48	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-02	2-Oct-18	14:48	S-ROUTINE	Boron		Dissolved	0.7		0.006	0.1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Cadmium		Dissolved	0.00007		0.00003	0.00003
LYS-02	2-Oct-18	14:48	S-ROUTINE	Calcium		Dissolved	457		0.07	1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Chromium		Dissolved	0.0026	J	0.0002	0.01
LYS-02	2-Oct-18	14:48	S-ROUTINE	Cobalt		Dissolved	0.00013	J	0.00009	0.01
LYS-02	2-Oct-18	14:48	S-ROUTINE	Copper		Dissolved	0.012		0.0001	0.001
LYS-02	2-Oct-18	14:48	S-ROUTINE	Iron		Dissolved	0.003	J	0.002	0.02
LYS-02	2-Oct-18	14:48	S-ROUTINE	Lead		Dissolved	0.00024	J	0.00003	0.0003
LYS-02	2-Oct-18	14:48	S-ROUTINE	Magnesium		Dissolved	313		0.1	1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Manganese		Dissolved	<0.0003		0.0003	0.001
LYS-02	2-Oct-18	14:48	S-ROUTINE	Molybdenum		Dissolved	0.054		0.00002	0.005
LYS-02	2-Oct-18	14:48	S-ROUTINE	Nickel		Dissolved	0.0011	J	0.0002	0.002
LYS-02	2-Oct-18	14:48	S-ROUTINE	Potassium		Dissolved	3		0.06	1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Selenium		Dissolved	0.035		0.00002	0.001
LYS-02	2-Oct-18	14:48	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-02	2-Oct-18	14:48	S-ROUTINE	Sodium		Dissolved	3270	D	8	8
LYS-02	2-Oct-18	14:48	S-ROUTINE	Uranium-238		Dissolved	1.66		0.0001	0.0002
LYS-02	2-Oct-18	14:48	S-ROUTINE	Vanadium		Dissolved	0.039	J	0.00007	0.1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Zinc		Dissolved	0.014		0.0003	0.008
LYS-02	2-Oct-18	14:48	S-ROUTINE	Mercury		Dissolved	0.0000062		0.000001	0.000005
LYS-02	2-Oct-18	14:48	S-ROUTINE	Chloride		Total	177		0.09	1
LYS-02	2-Oct-18	14:48	S-ROUTINE	Sulfate		Total	7940	D	0.2	2
LYS-02	2-Oct-18	14:48	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	2430		1	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-03	2-Oct-18	14:18	S-ROUTINE	Antimony		Dissolved	0.0009		0.00009	0.0005
LYS-03	2-Oct-18	14:18	S-ROUTINE	Arsenic		Dissolved	0.231		0.00004	0.001
LYS-03	2-Oct-18	14:18	S-ROUTINE	Barium		Dissolved	0.061		0.00002	0.003
LYS-03	2-Oct-18	14:18	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-03	2-Oct-18	14:18	S-ROUTINE	Boron		Dissolved	0.3		0.006	0.1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-03	2-Oct-18	14:18	S-ROUTINE	Calcium		Dissolved	52		0.07	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Chromium		Dissolved	0.0035	J	0.0002	0.01
LYS-03	2-Oct-18	14:18	S-ROUTINE	Cobalt		Dissolved	0.00012	J	0.00009	0.01
LYS-03	2-Oct-18	14:18	S-ROUTINE	Copper		Dissolved	0.003		0.0001	0.001
LYS-03	2-Oct-18	14:18	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-03	2-Oct-18	14:18	S-ROUTINE	Lead		Dissolved	0.00005	J	0.00003	0.0003
LYS-03	2-Oct-18	14:18	S-ROUTINE	Magnesium		Dissolved	12		0.1	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Manganese		Dissolved	0.003		0.0003	0.001
LYS-03	2-Oct-18	14:18	S-ROUTINE	Molybdenum		Dissolved	0.042		0.00002	0.005
LYS-03	2-Oct-18	14:18	S-ROUTINE	Nickel		Dissolved	<0.0002		0.0002	0.002

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-03	2-Oct-18	14:18	S-ROUTINE	Potassium		Dissolved	2		0.06	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Selenium		Dissolved	0.001		0.00002	0.001
LYS-03	2-Oct-18	14:18	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-03	2-Oct-18	14:18	S-ROUTINE	Sodium		Dissolved	70		0.02	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Uranium-238		Dissolved	0.0063		0.00001	0.0002
LYS-03	2-Oct-18	14:18	S-ROUTINE	Vanadium		Dissolved	0.1		0.00007	0.1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Zinc		Dissolved	0.003	J	0.0003	0.008
LYS-03	2-Oct-18	14:18	S-ROUTINE	Mercury		Dissolved	0.0000034	J	0.000001	0.000005
LYS-03	2-Oct-18	14:18	S-ROUTINE	Chloride		Total	0.21	J	0.09	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Sulfate		Total	102		0.1	1
LYS-03	2-Oct-18	14:18	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	177		1	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Antimony		Dissolved	0.0007		0.00009	0.0005
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Arsenic		Dissolved	0.012		0.00004	0.001
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Barium		Dissolved	0.117		0.00002	0.003
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Boron		Dissolved	0.3		0.006	0.1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Cadmium		Dissolved	0.00005		0.00003	0.00003
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Calcium		Dissolved	135		0.07	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Chromium		Dissolved	0.0008	J	0.0002	0.01
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Cobalt		Dissolved	0.00018	J	0.00009	0.01
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Copper		Dissolved	0.005		0.0001	0.001
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Lead		Dissolved	0.00009	J	0.00003	0.0003
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Magnesium		Dissolved	58		0.1	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Manganese		Dissolved	0.02		0.0003	0.001
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Molybdenum		Dissolved	0.014		0.00002	0.005
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Nickel		Dissolved	0.002	J	0.0002	0.002
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Potassium		Dissolved	30		0.06	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Selenium		Dissolved	0.005		0.00002	0.001
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Sodium		Dissolved	16		0.02	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Uranium-238		Dissolved	0.0252		0.00001	0.0002
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Vanadium		Dissolved	0.046	J	0.00007	0.1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Zinc		Dissolved	0.0058	J	0.0003	0.008
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Mercury		Dissolved	0.0000034	J	0.000001	0.000005
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Chloride		Total	28		0.02	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Sulfate		Total	281		0.02	1
LYS-04R	2-Oct-18	14:58	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	575		1	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-05	2-Oct-18	15:05	S-ROUTINE	Antimony		Dissolved	0.0016		0.00009	0.0005
LYS-05	2-Oct-18	15:05	S-ROUTINE	Arsenic		Dissolved	0.021		0.00004	0.001
LYS-05	2-Oct-18	15:05	S-ROUTINE	Barium		Dissolved	0.014		0.00002	0.003
LYS-05	2-Oct-18	15:05	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-05	2-Oct-18	15:05	S-ROUTINE	Boron		Dissolved	1.6		0.006	0.1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-05	2-Oct-18	15:05	S-ROUTINE	Cadmium		Dissolved	0.00014		0.00003	0.00003
LYS-05	2-Oct-18	15:05	S-ROUTINE	Calcium		Dissolved	418		0.07	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Chromium		Dissolved	0.003	J	0.0002	0.01
LYS-05	2-Oct-18	15:05	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
LYS-05	2-Oct-18	15:05	S-ROUTINE	Copper		Dissolved	0.01		0.0001	0.001
LYS-05	2-Oct-18	15:05	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-05	2-Oct-18	15:05	S-ROUTINE	Lead		Dissolved	0.00003	J	0.00003	0.0003
LYS-05	2-Oct-18	15:05	S-ROUTINE	Magnesium		Dissolved	124		0.1	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Manganese		Dissolved	0.0008	J	0.0003	0.001
LYS-05	2-Oct-18	15:05	S-ROUTINE	Molybdenum		Dissolved	0.026		0.00002	0.005
LYS-05	2-Oct-18	15:05	S-ROUTINE	Nickel		Dissolved	0.0006	J	0.0002	0.002
LYS-05	2-Oct-18	15:05	S-ROUTINE	Potassium		Dissolved	22		0.06	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Selenium		Dissolved	0.004		0.00002	0.001
LYS-05	2-Oct-18	15:05	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-05	2-Oct-18	15:05	S-ROUTINE	Sodium		Dissolved	1200		0.8	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Uranium-238		Dissolved	1.6		0.0001	0.0002
LYS-05	2-Oct-18	15:05	S-ROUTINE	Vanadium		Dissolved	0.0055	J	0.00007	0.1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Zinc		Dissolved	0.012		0.0003	0.008
LYS-05	2-Oct-18	15:05	S-ROUTINE	Mercury		Dissolved	0.0000058		0.000001	0.000005
LYS-05	2-Oct-18	15:05	S-ROUTINE	Chloride		Total	7		0.09	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Sulfate		Total	4170		0.1	1
LYS-05	2-Oct-18	15:05	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	1550		1	1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Alkalinity, total	as CaCO3	Total	120		2	4
LYS-06	2-Oct-18	14:27	S-ROUTINE	Bicarbonate	as HCO3	Total	150		2	4
LYS-06	2-Oct-18	14:27	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-06	2-Oct-18	14:27	S-ROUTINE	Antimony		Dissolved	0.00028	J	0.00009	0.0005
LYS-06	2-Oct-18	14:27	S-ROUTINE	Arsenic		Dissolved	0.003		0.00004	0.001
LYS-06	2-Oct-18	14:27	S-ROUTINE	Barium		Dissolved	0.047		0.00002	0.003
LYS-06	2-Oct-18	14:27	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-06	2-Oct-18	14:27	S-ROUTINE	Boron		Dissolved	0.2		0.006	0.1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-06	2-Oct-18	14:27	S-ROUTINE	Calcium		Dissolved	51		0.07	1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Chromium		Dissolved	0.0004	J	0.0002	0.01
LYS-06	2-Oct-18	14:27	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01
LYS-06	2-Oct-18	14:27	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
LYS-06	2-Oct-18	14:27	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-06	2-Oct-18	14:27	S-ROUTINE	Lead		Dissolved	0.00003	J	0.00003	0.0003
LYS-06	2-Oct-18	14:27	S-ROUTINE	Magnesium		Dissolved	9		0.1	1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Manganese		Dissolved	0.0005	J	0.0003	0.001
LYS-06	2-Oct-18	14:27	S-ROUTINE	Molybdenum		Dissolved	0.0047	J	0.00002	0.005
LYS-06	2-Oct-18	14:27	S-ROUTINE	Nickel		Dissolved	0.0002	J	0.0002	0.002
LYS-06	2-Oct-18	14:27	S-ROUTINE	Potassium		Dissolved	0.12	J	0.06	1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Selenium		Dissolved	0.00046	J	0.00002	0.001
LYS-06	2-Oct-18	14:27	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-06	2-Oct-18	14:27	S-ROUTINE	Sodium		Dissolved	55		0.02	1

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-06	2-Oct-18	14:27	S-ROUTINE	Uranium-238		Dissolved	0.0046		0.00001	0.0002
LYS-06	2-Oct-18	14:27	S-ROUTINE	Vanadium		Dissolved	0.019	J	0.00007	0.1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Zinc		Dissolved	0.0041	J	0.0003	0.008
LYS-06	2-Oct-18	14:27	S-ROUTINE	Mercury		Dissolved	0.0000026	J	0.000001	0.000005
LYS-06	2-Oct-18	14:27	S-ROUTINE	Chloride		Total	21		0.009	1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Sulfate		Total	145		0.01	1
LYS-06	2-Oct-18	14:27	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	167		1	1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-07	2-Oct-18	14:37	S-ROUTINE	Antimony		Dissolved	0.00041	J	0.00009	0.0005
LYS-07	2-Oct-18	14:37	S-ROUTINE	Arsenic		Dissolved	0.007		0.00004	0.001
LYS-07	2-Oct-18	14:37	S-ROUTINE	Barium		Dissolved	0.009		0.00002	0.003
LYS-07	2-Oct-18	14:37	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-07	2-Oct-18	14:37	S-ROUTINE	Boron		Dissolved	0.3		0.01	0.1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Cadmium		Dissolved	0.00004		0.00003	0.00003
LYS-07	2-Oct-18	14:37	S-ROUTINE	Calcium		Dissolved	232		0.1	1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Chromium		Dissolved	0.0019	J	0.0002	0.01
LYS-07	2-Oct-18	14:37	S-ROUTINE	Cobalt		Dissolved	0.00009	J	0.00009	0.01
LYS-07	2-Oct-18	14:37	S-ROUTINE	Copper		Dissolved	0.008		0.0001	0.001
LYS-07	2-Oct-18	14:37	S-ROUTINE	Iron		Dissolved	<0.002		0.002	0.02
LYS-07	2-Oct-18	14:37	S-ROUTINE	Lead		Dissolved	0.0005		0.00003	0.0003
LYS-07	2-Oct-18	14:37	S-ROUTINE	Magnesium		Dissolved	55		0.3	1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Manganese		Dissolved	0.001		0.0003	0.001
LYS-07	2-Oct-18	14:37	S-ROUTINE	Molybdenum		Dissolved	0.111		0.00002	0.005
LYS-07	2-Oct-18	14:37	S-ROUTINE	Nickel		Dissolved	0.0003	J	0.0002	0.002
LYS-07	2-Oct-18	14:37	S-ROUTINE	Potassium		Dissolved	10		0.1	1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Selenium		Dissolved	0.002		0.00002	0.001
LYS-07	2-Oct-18	14:37	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-07	2-Oct-18	14:37	S-ROUTINE	Sodium		Dissolved	547		0.03	1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Uranium-238		Dissolved	0.37		0.00001	0.0002
LYS-07	2-Oct-18	14:37	S-ROUTINE	Vanadium		Dissolved	0.0054	J	0.00007	0.1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Zinc		Dissolved	0.012		0.0003	0.008
LYS-07	2-Oct-18	14:37	S-ROUTINE	Mercury		Dissolved	<0.000001		0.000001	0.000005
LYS-07	2-Oct-18	14:37	S-ROUTINE	Chloride		Total	66		0.2	1
LYS-07	2-Oct-18	14:37	S-ROUTINE	Sulfate		Total	1890	D	0.2	2
LYS-07	2-Oct-18	14:37	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	805		1	1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Aluminum		Dissolved	<0.003		0.003	0.009
LYS-08	2-Oct-18	14:10	S-ROUTINE	Antimony		Dissolved	0.00023	J	0.00009	0.0005
LYS-08	2-Oct-18	14:10	S-ROUTINE	Arsenic		Dissolved	0.006		0.00004	0.001
LYS-08	2-Oct-18	14:10	S-ROUTINE	Barium		Dissolved	0.01		0.00002	0.003
LYS-08	2-Oct-18	14:10	S-ROUTINE	Beryllium		Dissolved	<0.0001		0.0001	0.0008
LYS-08	2-Oct-18	14:10	S-ROUTINE	Boron		Dissolved	0.1		0.01	0.1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Cadmium		Dissolved	<0.00003		0.00003	0.00003
LYS-08	2-Oct-18	14:10	S-ROUTINE	Calcium		Dissolved	326		0.1	1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Chromium		Dissolved	0.0006	J	0.0002	0.01
LYS-08	2-Oct-18	14:10	S-ROUTINE	Cobalt		Dissolved	<0.00009		0.00009	0.01

Station ID	Activity Start Date	Activity Start Time	Activity Type	Characteristic Name	Method Speciation Name	Sample Fraction	Result Value	Result Qualifier	Method Detection Limit Value	Lower Reporting Limit Value
LYS-08	2-Oct-18	14:10	S-ROUTINE	Copper		Dissolved	0.002		0.0001	0.001
LYS-08	2-Oct-18	14:10	S-ROUTINE	Iron		Dissolved	0.003	J	0.002	0.02
LYS-08	2-Oct-18	14:10	S-ROUTINE	Lead		Dissolved	<0.00003		0.00003	0.0003
LYS-08	2-Oct-18	14:10	S-ROUTINE	Magnesium		Dissolved	236		0.3	1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Manganese		Dissolved	0.0008	J	0.0003	0.001
LYS-08	2-Oct-18	14:10	S-ROUTINE	Molybdenum		Dissolved	0.008		0.00002	0.005
LYS-08	2-Oct-18	14:10	S-ROUTINE	Nickel		Dissolved	0.0008	J	0.0002	0.002
LYS-08	2-Oct-18	14:10	S-ROUTINE	Potassium		Dissolved	7		0.1	1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Selenium		Dissolved	0.019		0.00002	0.001
LYS-08	2-Oct-18	14:10	S-ROUTINE	Silver		Dissolved	<0.00002		0.00002	0.0002
LYS-08	2-Oct-18	14:10	S-ROUTINE	Sodium		Dissolved	256		0.03	1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Uranium-238		Dissolved	0.253		0.00001	0.0002
LYS-08	2-Oct-18	14:10	S-ROUTINE	Vanadium		Dissolved	0.037	J	0.00007	0.1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Zinc		Dissolved	0.0024	J	0.0003	0.008
LYS-08	2-Oct-18	14:10	S-ROUTINE	Mercury		Dissolved	0.0000018	J	0.000001	0.000005
LYS-08	2-Oct-18	14:10	S-ROUTINE	Chloride		Total	67		0.2	1
LYS-08	2-Oct-18	14:10	S-ROUTINE	Sulfate		Total	2060	D	0.2	2
LYS-08	2-Oct-18	14:10	S-ROUTINE	Hardness, Ca, Mg	as CaCO3	NA	1790		1	1

APPENDIX G

Macroinvertebrate Data

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC001

RAI No.: **CC18SBC001** Sta. Name: **Blacktail Creek at Father Sheehan Park**
Client ID: **SS-01**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**1**	**0.19%**	**Yes**	**Unknown**		**4**	**PR**
Nemata							
Nemata	**16**	**2.98%**	**Yes**	**Unknown**		**5**	**UN**
Naididae							
Naididae	**23**	**4.28%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Limnodrilus sp.	**1**	**0.19%**	**Yes**	**Unknown**		**10**	**CG**
Naididae							
Nais sp.	**10**	**1.86%**	**Yes**	**Unknown**		**8**	**CG**
Ophidonais serpentina	**19**	**3.54%**	**Yes**	**Unknown**		**6**	**CG**
Naididae							
Tubificinae	**13**	**2.42%**	**No**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**43**	**8.01%**	**Yes**	**Unknown**		**8**	**CF**
Lymnaeidae							
Stagnicola sp.	**2**	**0.37%**	**Yes**	**Unknown**		**6**	**SC**
Planorbidae							
Gyraulus sp.	**2**	**0.37%**	**Yes**	**Unknown**		**8**	**SC**
Ostracoda							
Ostracoda	**5**	**0.93%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**31**	**5.77%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**15**	**2.79%**	**Yes**	**Larva**		**5**	**CG**
Callibaetis sp.	**1**	**0.19%**	**Yes**	**Larva**		**9**	**CG**
Ephemerellidae							
Ephemerella excrucians	**3**	**0.56%**	**Yes**	**Larva**		**4**	**SH**
Plecoptera							
Chloroperlidae							
Chloroperlidae	**2**	**0.37%**	**Yes**	**Larva**	**Early Instar**	**1**	**PR**
Perlodidae							
Skwala sp.	**2**	**0.37%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	**6**	**1.12%**	**Yes**	**Larva**		**3**	**CG**
Brachycentridae	**1**	**0.19%**	**No**	**Pupa**		**1**	**CF**
Brachycentrus americanus	**156**	**29.05%**	**Yes**	**Larva**		**1**	**CF**
Glossosomatidae							
Glossosoma sp.	**1**	**0.19%**	**Yes**	**Larva**		**0**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**2**	**0.37%**	**Yes**	**Larva**		**5**	**CF**
Leptoceridae							
Oecetis sp.	**2**	**0.37%**	**Yes**	**Larva**		**8**	**PR**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC001

RAI No.: **CC18SBC001** Sta. Name: **Blacktail Creek at Father Sheehan Park**
Client ID: **SS-01**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Elmidae							
Cleptelmis addenda	**1**	**0.19%**	**Yes**	**Larva**		**4**	**CG**
Narpus concolor	**2**	**0.37%**	**Yes**	**Larva**		**2**	**CG**
Optioservus sp.	**65**	**12.10%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**1**	**0.19%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**1**	**0.19%**	**No**	**Larva**		**5**	**CG**
Zaitzevia sp.	**1**	**0.19%**	**Yes**	**Adult**		**5**	**CG**
Diptera							
Empididae							
Neoplasta sp.	**11**	**2.05%**	**Yes**	**Larva**		**5**	**PR**
Trichoclinocera sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**PR**
Simuliidae							
Simulium sp.	**3**	**0.56%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Hexatoma sp.	**1**	**0.19%**	**Yes**	**Larva**		**2**	**PR**
Tipula sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Phaenopsectra sp.	**1**	**0.19%**	**Yes**	**Larva**		**7**	**SC**
Chironominae							
Micropsectra sp.	**3**	**0.56%**	**Yes**	**Larva**		**4**	**CG**
Tanytarsus sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Pagastia sp.	**2**	**0.37%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Brillia sp.	**3**	**0.56%**	**Yes**	**Larva**		**4**	**SH**
Cricotopus sp.	**1**	**0.19%**	**No**	**Pupa**		**7**	**SH**
Cricotopus (Isocladius) sp.	**6**	**1.12%**	**Yes**	**Larva**		**7**	**SH**
Cricotopus / Orthocladius	**1**	**0.19%**	**No**	**Larva**	**Early Instar**	**7**	**SH**
Doncricotopus bicaudatus	**2**	**0.37%**	**Yes**	**Larva**		**11**	**UN**
Eukiefferiella Claripennis Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Orthocladiinae	**2**	**0.37%**	**No**	**Pupa**	**Damaged**	**6**	**CG**
Orthocladius sp.	**30**	**5.59%**	**Yes**	**Larva**		**6**	**CG**
Orthocladius sp.	**3**	**0.56%**	**No**	**Pupa**		**6**	**CG**
Parametriocnemus sp.	**3**	**0.56%**	**No**	**Pupa**		**5**	**CG**
Parametriocnemus sp.	**13**	**2.42%**	**Yes**	**Larva**		**5**	**CG**
Thienemanniella sp.	**1**	**0.19%**	**Yes**	**Pupa**		**6**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Prodiamesinae							
Monodiamesa sp.	**1**	**0.19%**	**Yes**	**Larva**		**7**	**CG**
Odontomesa sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**CG**
Tanypodinae							
Procladius sp.	**9**	**1.68%**	**Yes**	**Larva**		**9**	**PR**
Radotanypus sp.	**3**	**0.56%**	**Yes**	**Larva**		**7**	**PR**
Thienemannimyia Gr.	**4**	**0.74%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC001

RAI No.: **CC18SBC001** Sta. Name: **Blacktail Creek at Father Sheehan Park**
Client ID: **SS-01**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Sample Count	537						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC002

RAI No.: **CC18SBC002** Sta. Name: **Silver Bow Creek above Butte Reduction Works**
Client ID: **SS-05A**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**10**	**1.84%**	**Yes**	**Unknown**		**4**	**PR**
Nemata							
Nemata	**18**	**3.31%**	**Yes**	**Unknown**		**5**	**UN**
Naididae							
Naididae	**6**	**1.10%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Tubificinae	**5**	**0.92%**	**Yes**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**2**	**0.37%**	**Yes**	**Unknown**		**8**	**CF**
Lymnaeidae							
Stagnicola sp.	**9**	**1.65%**	**Yes**	**Unknown**		**6**	**SC**
Planorbidae							
Gyraulus sp.	**3**	**0.55%**	**Yes**	**Unknown**		**8**	**SC**
Acari							
Acari	**86**	**15.81%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**55**	**10.11%**	**Yes**	**Larva**		**5**	**CG**
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	**21**	**3.86%**	**Yes**	**Larva**		**3**	**CG**
Brachycentrus americanus	**2**	**0.37%**	**Yes**	**Larva**		**1**	**CF**
Brachycentrus occidentalis	**11**	**2.02%**	**Yes**	**Larva**		**2**	**CF**
Hydropsychidae							
Cheumatopsyche sp.	**88**	**16.18%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**89**	**16.36%**	**Yes**	**Larva**		**5**	**CF**
Hydroptilidae							
Hydroptila sp.	**2**	**0.37%**	**Yes**	**Larva**		**6**	**PH**
Hydroptilidae	**12**	**2.21%**	**No**	**Pupa**		**4**	**PH**
Leptoceridae							
Oecetis sp.	**8**	**1.47%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Cleptelmis addenda	**2**	**0.37%**	**No**	**Larva**		**4**	**CG**
Cleptelmis addenda	**1**	**0.18%**	**Yes**	**Adult**		**4**	**CG**
Optioservus sp.	**63**	**11.58%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**7**	**1.29%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**3**	**0.55%**	**Yes**	**Adult**		**5**	**CG**
Haliplidae							
Haliplus sp.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**PH**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC002

RAI No.: **CC18SBC002** Sta. Name: **Silver Bow Creek above Butte Reduction Works**
Client ID: **SS-05A**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Neoplasta sp.	**4**	**0.74%**	**Yes**	**Larva**		**5**	**PR**
Muscidae							
Muscidae	**5**	**0.92%**	**Yes**	**Larva**		**10**	**PR**
Simuliidae							
Simulium sp.	**1**	**0.18%**	**No**	**Pupa**		**6**	**CF**
Simulium sp.	**2**	**0.37%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Dicranota sp.	**1**	**0.18%**	**Yes**	**Larva**		**3**	**PR**
Tipula sp.	**4**	**0.74%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Microtendipes sp.	**2**	**0.37%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Diamesa sp.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**CG**
Pagastia sp.	**3**	**0.55%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Eukiefferiella sp.	**1**	**0.18%**	**Yes**	**Pupa**		**8**	**CG**
Orthocladiinae	**1**	**0.18%**	**No**	**Pupa**	**Damaged**	**6**	**CG**
Orthocladius sp.	**4**	**0.74%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**3**	**0.55%**	**Yes**	**Larva**		**5**	**CG**
Prodiamesinae							
Odontomesa sp.	**1**	**0.18%**	**Yes**	**Larva**		**4**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**7**	**1.29%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	544						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC003

RAI No.: **CC18SBC003** Sta. Name: **Silver Bow Creek above WWTP**
Client ID: **SS-06G**
Date Coll.: **9/17/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**1**	**0.18%**	**Yes**	**Unknown**		**4**	**PR**
Nemata							
Nemata	**7**	**1.27%**	**Yes**	**Unknown**		**5**	**UN**
Enchytraeidae							
Enchytraeidae	**2**	**0.36%**	**Yes**	**Immature**		**4**	**CG**
Naididae							
Naididae	**17**	**3.09%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Nais sp.	**2**	**0.36%**	**Yes**	**Unknown**		**8**	**CG**
Naididae							
Tubificinae	**1**	**0.18%**	**Yes**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**15**	**2.73%**	**Yes**	**Unknown**		**8**	**CF**
Lymnaeidae							
Stagnicola sp.	**5**	**0.91%**	**Yes**	**Unknown**		**6**	**SC**
Acari							
Acari	**9**	**1.64%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**82**	**14.91%**	**Yes**	**Larva**		**5**	**CG**
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	**30**	**5.45%**	**Yes**	**Larva**		**3**	**CG**
Brachycentrus americanus	**1**	**0.18%**	**Yes**	**Larva**		**1**	**CF**
Brachycentrus occidentalis	**5**	**0.91%**	**Yes**	**Larva**		**2**	**CF**
Hydropsychidae							
Cheumatopsyche sp.	**60**	**10.91%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**204**	**37.09%**	**Yes**	**Larva**		**5**	**CF**
Hydroptilidae							
Hydroptilidae	**2**	**0.36%**	**Yes**	**Pupa**		**4**	**PH**
Leptoceridae							
Oecetis sp.	**6**	**1.09%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Cleptelmis addenda	**1**	**0.18%**	**Yes**	**Larva**		**4**	**CG**
Optioservus sp.	**14**	**2.55%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**57**	**10.36%**	**No**	**Larva**		**5**	**SC**
Diptera							
Simuliidae							
Simulium sp.	**16**	**2.91%**	**Yes**	**Larva**		**6**	**CF**
Simulium sp.	**3**	**0.55%**	**No**	**Pupa**		**6**	**CF**
Tipulidae							
Tipula sp.	**1**	**0.18%**	**Yes**	**Larva**		**4**	**SH**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC003

RAI No.: **CC18SBC003** Sta. Name: **Silver Bow Creek above WWTP**
Client ID: **SS-06G**
Date Coll.: **9/17/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Orthocladiinae							
Eukiefferiella Devonica Gr.	**5**	**0.91%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Gracei Gr.	**1**	**0.18%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**1**	**0.18%**	**Yes**	**Larva**		**6**	**CG**
Parametriocnemus sp.	**1**	**0.18%**	**Yes**	**Pupa**		**5**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**CG**
Sample Count	550						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC004

RAI No.: **CC18SBC004** Sta. Name: **Silver Bow Creek below WWTP**
Client ID: **SS-07**
Date Coll.: **9/17/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata							
Nemata	**6**	**1.10%**	**Yes**	**Unknown**		**5**	**UN**
Naididae							
Naididae	**2**	**0.37%**	**Yes**	**Immature**		**8**	**CG**
Sphaeriidae							
Sphaeriidae	**7**	**1.29%**	**Yes**	**Unknown**		**8**	**CF**
Lymnaeidae							
Stagnicola sp.	**2**	**0.37%**	**Yes**	**Unknown**		**6**	**SC**
Planorbidae							
Gyraulus sp.	**1**	**0.18%**	**Yes**	**Unknown**		**8**	**SC**
Acari							
Acari	**6**	**1.10%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**121**	**22.24%**	**Yes**	**Larva**		**5**	**CG**
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	**24**	**4.41%**	**Yes**	**Larva**		**3**	**CG**
Brachycentrus occidentalis	**4**	**0.74%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**1**	**0.18%**	**Yes**	**Larva**		**0**	**SC**
Glossosomatidae	**1**	**0.18%**	**No**	**Pupa**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**1**	**0.18%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**11**	**2.02%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**198**	**36.40%**	**Yes**	**Larva**		**5**	**CF**
Hydropsychidae	**2**	**0.37%**	**No**	**Pupa**		**4**	**CF**
Hydroptilidae							
Hydroptilidae	**1**	**0.18%**	**Yes**	**Pupa**		**4**	**PH**
Leptoceridae							
Oecetis sp.	**10**	**1.84%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Optioservus sp.	**120**	**22.06%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**10**	**1.84%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**CG**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC004

RAI No.: **CC18SBC004** Sta. Name: **Silver Bow Creek below WWTP**
Client ID: **SS-07**
Date Coll.: **9/17/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Neoplasta sp.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**PR**
Muscidae							
Muscidae	**1**	**0.18%**	**Yes**	**Larva**		**10**	**PR**
Simuliidae							
Simulium sp.	**3**	**0.55%**	**Yes**	**Larva**		**6**	**CF**
Simulium sp.	**3**	**0.55%**	**No**	**Pupa**		**6**	**CF**
Tipulidae							
Tipula sp.	**2**	**0.37%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Orthocladiinae							
Cricotopus (Cricotopus) sp.	**1**	**0.18%**	**Yes**	**Larva**		**7**	**SH**
Parametriocnemus sp.	**1**	**0.18%**	**Yes**	**Pupa**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**3**	**0.55%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	544						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC005

RAI No.: **CC18SBC005** Sta. Name: **Silver Bow Creek at Rocker**
Client ID: **SS-08**
Date Coll.: **9/17/2018** No. Jars: **3** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**4**	**0.75%**	**Yes**	**Unknown**		**4**	**PR**
Erpobdellidae							
Erpobdella sp.	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**PR**
Naididae							
Naididae	**26**	**4.90%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Tubificinae	**10**	**1.88%**	**Yes**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**5**	**0.94%**	**Yes**	**Unknown**		**8**	**CF**
Lymnaeidae							
Stagnicola sp.	**6**	**1.13%**	**Yes**	**Unknown**		**6**	**SC**
Acari							
Acari	**20**	**3.77%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**48**	**9.04%**	**Yes**	**Larva**		**5**	**CG**
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	**4**	**0.75%**	**Yes**	**Larva**		**3**	**CG**
Brachycentrus occidentalis	**48**	**9.04%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**1**	**0.19%**	**Yes**	**Larva**		**0**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**130**	**24.48%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**106**	**19.96%**	**Yes**	**Larva**		**5**	**CF**
Hydroptilidae							
Hydroptila sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**PH**
Hydroptilidae	**1**	**0.19%**	**No**	**Pupa**		**4**	**PH**
Lepidostomatidae							
Lepidostoma sp.	**1**	**0.19%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Oecetis sp.	**14**	**2.64%**	**Yes**	**Larva**		**8**	**PR**
Lepidoptera							
Crambidae							
Petrophila sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**SC**
Coleoptera							
Elmidae							
Optioservus sp.	**10**	**1.88%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**41**	**7.72%**	**No**	**Larva**		**5**	**SC**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC005

RAI No.: **CC18SBC005** Sta. Name: **Silver Bow Creek at Rocker**
Client ID: **SS-08**
Date Coll.: **9/17/2018** No. Jars: **3** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Neoplasta sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**PR**
Muscidae							
Muscidae	**2**	**0.38%**	**Yes**	**Larva**		**10**	**PR**
Simuliidae							
Simulium sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Tipula sp.	**2**	**0.38%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Microtendipes sp.	**8**	**1.51%**	**Yes**	**Larva**		**6**	**CF**
Orthocladiinae							
Brillia sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**SH**
Eukiefferiella sp.	**1**	**0.19%**	**No**	**Pupa**		**8**	**CG**
Eukiefferiella Brehmi Gr.	**6**	**1.13%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Claripennis Gr.	**2**	**0.38%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**15**	**2.82%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**CG**
Parametriocnemus sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Tvetenia Bavarica Gr.	**7**	**1.32%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**5**	**0.94%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	531						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC006

RAI No.: **CC18SBC006** Sta. Name: **Silver Bow Creek above Sand Creek**
Client ID: **SS-10A**
Date Coll.: **9/18/2018** No. Jars: **2** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**5**	**1.00%**	**Yes**	**Unknown**		**4**	**PR**
Nemata							
Nemata	**7**	**1.39%**	**Yes**	**Unknown**		**5**	**UN**
Enchytraeidae							
Enchytraeus sp.	**1**	**0.20%**	**Yes**	**Unknown**		**4**	**CG**
Naididae							
Naididae	**13**	**2.59%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Limnodrilus sp.	**1**	**0.20%**	**Yes**	**Unknown**		**10**	**CG**
Sphaeriidae							
Sphaeriidae	**9**	**1.79%**	**Yes**	**Unknown**		**8**	**CF**
Acari							
Acari	**20**	**3.98%**	**Yes**	**Unknown**		**5**	**PR**
Odonata							
Gomphidae							
Gomphidae	**1**	**0.20%**	**Yes**	**Larva**	**Early Instar**	**2.5**	**PR**
Odonata							
Coenagrionidae							
Coenagrionidae	**1**	**0.20%**	**Yes**	**Larva**	**Damaged**	**7**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**43**	**8.57%**	**Yes**	**Larva**		**5**	**CG**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**87**	**17.33%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**1**	**0.20%**	**Yes**	**Larva**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**25**	**4.98%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**102**	**20.32%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**105**	**20.92%**	**Yes**	**Larva**		**5**	**CF**
Hydroptilidae							
Hydroptilidae	**1**	**0.20%**	**Yes**	**Pupa**		**4**	**PH**
Leptoceridae							
Oecetis sp.	**5**	**1.00%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Microcylloepus sp.	**1**	**0.20%**	**Yes**	**Adult**		**5**	**CG**
Optioservus sp.	**4**	**0.80%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**9**	**1.79%**	**No**	**Larva**		**5**	**SC**
Zaitzevia sp.	**2**	**0.40%**	**Yes**	**Adult**		**5**	**CG**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC006

RAI No.: **CC18SBC006** Sta. Name: **Silver Bow Creek above Sand Creek**
Client ID: **SS-10A**
Date Coll.: **9/18/2018** No. Jars: **2** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Muscidae							
Muscidae	**1**	**0.20%**	**Yes**	**Larva**		**10**	**PR**
Simuliidae							
Simulium sp.	**1**	**0.20%**	**No**	**Pupa**		**6**	**CF**
Simulium sp.	**20**	**3.98%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Tipula sp.	**1**	**0.20%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Microtendipes sp.	**6**	**1.20%**	**Yes**	**Larva**		**6**	**CF**
Phaenopsectra sp.	**4**	**0.80%**	**Yes**	**Larva**		**7**	**SC**
Orthocladiinae							
Eukiefferiella Brehmi Gr.	**5**	**1.00%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**6**	**1.20%**	**Yes**	**Larva**		**8**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.20%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Procladius sp.	**1**	**0.20%**	**Yes**	**Larva**		**9**	**PR**
Thienemannimyia Gr.	**13**	**2.59%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	502						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC007

RAI No.: **CC18SBC007** Sta. Name: **Silver Bow Creek above Browns Gulch**
Client ID: **SS-11C**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nematata							
Nemata	**35**	**6.36%**	**Yes**	**Unknown**		**5**	**UN**
Glossiphoniidae							
Theromyzon sp.	**1**	**0.18%**	**Yes**	**Unknown**		**10**	**PR**
Haplotaxidae							
Haplotaxis sp.	**1**	**0.18%**	**Yes**	**Unknown**		**11**	**PR**
Naididae							
Naididae	**74**	**13.45%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Limnodrilus sp.	**1**	**0.18%**	**Yes**	**Unknown**		**10**	**CG**
Naididae							
Tubificinae	**2**	**0.36%**	**No**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**36**	**6.55%**	**Yes**	**Unknown**		**8**	**CF**
Physidae							
Physidae	**2**	**0.36%**	**Yes**	**Unknown**		**8**	**SC**
Hyalellidae							
Hyalella sp.	**5**	**0.91%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**16**	**2.91%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**60**	**10.91%**	**Yes**	**Larva**		**5**	**CG**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**99**	**18.00%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**1**	**0.18%**	**Yes**	**Larva**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**61**	**11.09%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**19**	**3.45%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**12**	**2.18%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**4**	**0.73%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Nectopsyche sp.	**5**	**0.91%**	**Yes**	**Larva**		**2**	**SH**
Oecetis sp.	**6**	**1.09%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Optioservus sp.	**29**	**5.27%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**8**	**1.45%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**2**	**0.36%**	**Yes**	**Adult**		**5**	**CG**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC007

RAI No.: **CC18SBC007** Sta. Name: **Silver Bow Creek above Browns Gulch**
Client ID: **SS-11C**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Empididae							
Hemerodromia sp.	**1**	**0.18%**	**Yes**	**Larva**		**6**	**PR**
Simuliidae							
Simulium sp.	**23**	**4.18%**	**Yes**	**Larva**		**6**	**CF**
Tabanidae							
Tabanidae	**1**	**0.18%**	**Yes**	**Larva**		**6**	**PR**
Chironomidae							
Chironominae							
Chironomini	**1**	**0.18%**	**No**	**Pupa**	**Damaged**	**6**	**CG**
Microtendipes sp.	**24**	**4.36%**	**Yes**	**Larva**		**6**	**CF**
Phaenopsectra sp.	**1**	**0.18%**	**Yes**	**Larva**		**7**	**SC**
Orthocladiinae							
Eukiefferiella Claripennis Gr.	**2**	**0.36%**	**Yes**	**Larva**		**8**	**CG**
Orthocladiinae	**1**	**0.18%**	**No**	**Pupa**	**Damaged**	**6**	**CG**
Parametriocnemus sp.	**1**	**0.18%**	**No**	**Pupa**		**5**	**CG**
Parametriocnemus sp.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**15**	**2.73%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	550						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC008

RAI No.: **CC18SBC008** Sta. Name: **Silver Bow Creek below Browns Gulch**
Client ID: **SS-11D**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**4**	**0.73%**	**Yes**	**Unknown**		**4**	**PR**
Nemata							
Nemata	**31**	**5.67%**	**Yes**	**Unknown**		**5**	**UN**
Erpobdellidae							
Erpobdella sp.	**1**	**0.18%**	**Yes**	**Unknown**		**8**	**PR**
Glossiphoniidae							
Theromyzon sp.	**4**	**0.73%**	**Yes**	**Unknown**		**10**	**PR**
Naididae							
Naididae	**45**	**8.23%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Limnodrilus sp.	**1**	**0.18%**	**Yes**	**Unknown**		**10**	**CG**
Naididae							
Tubificinae	**12**	**2.19%**	**No**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**6**	**1.10%**	**Yes**	**Unknown**		**8**	**CF**
Physidae							
Physidae	**8**	**1.46%**	**Yes**	**Unknown**		**8**	**SC**
Planorbidae							
Gyraulus sp.	**1**	**0.18%**	**Yes**	**Unknown**		**8**	**SC**
Hyalellidae							
Hyalella sp.	**1**	**0.18%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**20**	**3.66%**	**Yes**	**Unknown**		**5**	**PR**
Odonata							
Gomphidae							
Gomphidae	**5**	**0.91%**	**Yes**	**Larva**	**Early Instar**	**2.5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**28**	**5.12%**	**Yes**	**Larva**		**5**	**CG**
Iswaeon sp.	**3**	**0.55%**	**Yes**	**Larva**		**11**	**UN**
Leptophlebiidae							
Leptophlebiidae	**1**	**0.18%**	**Yes**	**Larva**	**Early Instar**	**2**	**CG**
Plecoptera							
Chloroperlidae							
Chloroperlidae	**6**	**1.10%**	**Yes**	**Larva**	**Early Instar**	**1**	**PR**
Perlodidae							
Isoperla sp.	**2**	**0.37%**	**Yes**	**Larva**		**2**	**PR**
Skwala sp.	**2**	**0.37%**	**Yes**	**Larva**		**3**	**PR**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC008

RAI No.: **CC18SBC008** Sta. Name: **Silver Bow Creek below Browns Gulch**
Client ID: **SS-11D**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**47**	**8.59%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**1**	**0.18%**	**Yes**	**Larva**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**111**	**20.29%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**13**	**2.38%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**19**	**3.47%**	**Yes**	**Larva**		**5**	**CF**
Hydroptilidae							
Hydroptilidae	**1**	**0.18%**	**Yes**	**Pupa**		**4**	**PH**
Lepidostomatidae							
Lepidostoma sp.	**8**	**1.46%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Nectopsyche sp.	**16**	**2.93%**	**Yes**	**Larva**		**2**	**SH**
Oecetis sp.	**5**	**0.91%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Optioservus sp.	**45**	**8.23%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**32**	**5.85%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**6**	**1.10%**	**No**	**Larva**		**5**	**CG**
Zaitzevia sp.	**1**	**0.18%**	**Yes**	**Adult**		**5**	**CG**
Diptera							
Empididae							
Hemerodromia sp.	**2**	**0.37%**	**Yes**	**Larva**		**6**	**PR**
Neoplasta sp.	**1**	**0.18%**	**Yes**	**Larva**		**5**	**PR**
Simuliidae							
Simulium sp.	**4**	**0.73%**	**Yes**	**Larva**		**6**	**CF**
Simulium sp.	**1**	**0.18%**	**No**	**Pupa**		**6**	**CF**
Tipulidae							
Tipula sp.	**1**	**0.18%**	**Yes**	**Larva**		**4**	**SH**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC008

RAI No.: **CC18SBC008** Sta. Name: **Silver Bow Creek below Browns Gulch**
Client ID: **SS-11D**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Cryptochironomus sp.	**2**	**0.37%**	**Yes**	**Larva**		**8**	**PR**
Microtendipes sp.	**20**	**3.66%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**11**	**2.01%**	**Yes**	**Larva**		**4**	**CG**
Tanytarsus sp.	**2**	**0.37%**	**Yes**	**Larva**		**6**	**CF**
Orthocladiinae							
Brillia sp.	**1**	**0.18%**	**Yes**	**Larva**		**4**	**SH**
Cricotopus / Orthocladius	**1**	**0.18%**	**No**	**Larva**	**Damaged**	**7**	**SH**
Eukiefferiella Claripennis Gr.	**1**	**0.18%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**1**	**0.18%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Gracei Gr.	**1**	**0.18%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**1**	**0.18%**	**Yes**	**Larva**		**6**	**CG**
Parametriocnemus sp.	**1**	**0.18%**	**No**	**Pupa**		**5**	**CG**
Parametriocnemus sp.	**2**	**0.37%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**8**	**1.46%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	547						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC009

RAI No.: **CC18SBC009** Sta. Name: **Silver Bow Creek in Reach L**
Client ID: **SS-13**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nematata							
Nemata	**11**	**2.07%**	**Yes**	**Unknown**		**5**	**UN**
Erpobdellidae							
Erpobdella sp.	**5**	**0.94%**	**Yes**	**Unknown**		**8**	**PR**
Glossiphoniidae							
Theromyzon sp.	**1**	**0.19%**	**Yes**	**Unknown**		**10**	**PR**
Enchytraeidae							
Enchytraeidae	**2**	**0.38%**	**Yes**	**Immature**		**4**	**CG**
Naididae							
Naididae	**43**	**8.10%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Tubificinae	**19**	**3.58%**	**Yes**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**21**	**3.95%**	**Yes**	**Unknown**		**8**	**CF**
Hyalellidae							
Hyalella sp.	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**41**	**7.72%**	**Yes**	**Unknown**		**5**	**PR**
Odonata							
Gomphidae							
Gomphidae	**3**	**0.56%**	**Yes**	**Larva**	**Early Instar**	**2.5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**8**	**1.51%**	**Yes**	**Larva**		**5**	**CG**
Iswaeon sp.	**1**	**0.19%**	**Yes**	**Larva**		**11**	**UN**
Heptageniidae							
Ecdyonurus criddlei	**1**	**0.19%**	**Yes**	**Larva**		**2**	**SH**
Leptohyphidae							
Tricorythodes sp.	**5**	**0.94%**	**Yes**	**Larva**		**4**	**CG**
Plecoptera							
Perlodidae							
Skwala sp.	**2**	**0.38%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**77**	**14.50%**	**Yes**	**Larva**		**2**	**CF**
Helicopsychidae							
Helicopsyche sp.	**58**	**10.92%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**2**	**0.38%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**7**	**1.32%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**2**	**0.38%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Nectopsyche sp.	**8**	**1.51%**	**Yes**	**Larva**		**2**	**SH**
Oecetis sp.	**6**	**1.13%**	**Yes**	**Larva**		**8**	**PR**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC009

RAI No.: **CC18SBC009** Sta. Name: **Silver Bow Creek in Reach L**
Client ID: **SS-13**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Elmidae							
Dubiraphia sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**CG**
Optioservus sp.	**4**	**0.75%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**29**	**5.46%**	**No**	**Larva**		**5**	**SC**
Diptera							
Simuliidae							
Simulium sp.	**15**	**2.82%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Tipula sp.	**3**	**0.56%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Cryptochironomus sp.	**2**	**0.38%**	**Yes**	**Larva**		**8**	**PR**
Microtendipes sp.	**138**	**25.99%**	**Yes**	**Larva**		**6**	**CF**
Phaenopsectra sp.	**2**	**0.38%**	**Yes**	**Larva**		**7**	**SC**
Orthocladiinae							
Eukiefferiella Brehmi Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**12**	**2.26%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	531						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC010

RAI No.: **CC18SBC010** Sta. Name: **Silver Bow Creek at Miles Crossing**
Client ID: **SS-14**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Trepaxonemata							
Trepaxonemata	**1**	**0.19%**	**Yes**	**Unknown**		**4**	**PR**
Nemata							
Nemata	**4**	**0.76%**	**Yes**	**Unknown**		**5**	**UN**
Erpobdellidae							
Erpobdella sp.	**2**	**0.38%**	**Yes**	**Unknown**		**8**	**PR**
Naididae							
Naididae	**22**	**4.21%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Limnodrilus sp.	**1**	**0.19%**	**Yes**	**Unknown**		**10**	**CG**
Naididae							
Tubificinae	**15**	**2.87%**	**No**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**14**	**2.68%**	**Yes**	**Unknown**		**8**	**CF**
Physidae							
Physidae	**4**	**0.76%**	**Yes**	**Unknown**		**8**	**SC**
Acari							
Acari	**11**	**2.10%**	**Yes**	**Unknown**		**5**	**PR**
Odonata							
Gomphidae							
Ophiogomphus sp.	**2**	**0.38%**	**Yes**	**Larva**		**5**	**PR**
Odonata							
Coenagrionidae							
Coenagrionidae	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**7**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**16**	**3.06%**	**Yes**	**Larva**		**5**	**CG**
Iswaeon sp.	**1**	**0.19%**	**Yes**	**Larva**		**11**	**UN**
Leptohyphidae							
Tricorythodes sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**CG**
Plecoptera							
Perlodidae							
Skwala sp.	**8**	**1.53%**	**Yes**	**Larva**		**3**	**PR**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC010

RAI No.: **CC18SBC010** Sta. Name: **Silver Bow Creek at Miles Crossing**
Client ID: **SS-14**
Date Coll.: **9/18/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**154**	**29.45%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**5**	**0.96%**	**Yes**	**Larva**		**0**	**SC**
Glossosomatidae	**4**	**0.76%**	**No**	**Pupa**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**73**	**13.96%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**2**	**0.38%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**15**	**2.87%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**10**	**1.91%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Nectopsyche sp.	**3**	**0.57%**	**Yes**	**Larva**		**2**	**SH**
Oecetis sp.	**11**	**2.10%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Microcylloepus sp.	**1**	**0.19%**	**Yes**	**Adult**		**5**	**CG**
Optioservus sp.	**12**	**2.29%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**35**	**6.69%**	**No**	**Larva**		**5**	**SC**
Zaitzevia sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Diptera							
Athericidae							
Atherix sp.	**1**	**0.19%**	**Yes**	**Larva**		**2**	**PR**
Simuliidae							
Simulium sp.	**6**	**1.15%**	**Yes**	**Larva**		**6**	**CF**
Chironomidae							
Chironominae							
Microtendipes sp.	**74**	**14.15%**	**Yes**	**Larva**		**6**	**CF**
Chironominae							
Micropsectra sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**CG**
Diamesinae							
Pagastia sp.	**3**	**0.57%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Eukiefferiella Brehmi Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Parametriocnemus sp.	**1**	**0.19%**	**Yes**	**Pupa**		**5**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Tanypodinae							
Procladius sp.	**1**	**0.19%**	**Yes**	**Larva**		**9**	**PR**
Thienemannimyia Gr.	**5**	**0.96%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	523						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC011

RAI No.: **CC18SBC011** Sta. Name: **Silver Bow Creek above German Gulch**
Client ID: **SS-15A-2**
Date Coll.: **9/21/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	**23**	**4.36%**	**Yes**	**Immature**		**8**	**CG**
Physidae							
Physidae	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**SC**
Acari							
Acari	**9**	**1.71%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**51**	**9.68%**	**Yes**	**Larva**		**5**	**CG**
Plecoptera							
Nemouridae							
Zapada cinctipes	**2**	**0.38%**	**Yes**	**Larva**		**3**	**SH**
Perlodidae							
Isoperla sp.	**1**	**0.19%**	**Yes**	**Larva**		**2**	**PR**
Skwala sp.	**6**	**1.14%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**31**	**5.88%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**32**	**6.07%**	**Yes**	**Larva**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**10**	**1.90%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Hydropsyche sp.	**36**	**6.83%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**257**	**48.77%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Oecetis sp.	**5**	**0.95%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Optioservus sp.	**3**	**0.57%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**16**	**3.04%**	**No**	**Larva**		**5**	**SC**
Zaitzevia sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Diptera							
Athericidae							
Atherix sp.	**9**	**1.71%**	**Yes**	**Larva**		**2**	**PR**
Simuliidae							
Simulium sp.	**2**	**0.38%**	**No**	**Pupa**		**6**	**CF**
Simulium sp.	**15**	**2.85%**	**Yes**	**Larva**		**6**	**CF**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC011

RAI No.: **CC18SBC011** Sta. Name: **Silver Bow Creek above German Gulch**
Client ID: **SS-15A-2**
Date Coll.: **9/21/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Micropsectra sp.	**2**	**0.38%**	**Yes**	**Larva**		**4**	**CG**
Orthocladiinae							
Eukiefferiella sp.	**1**	**0.19%**	**No**	**Pupa**		**8**	**CG**
Eukiefferiella Brehmi Gr.	**2**	**0.38%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Brevicalcar Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Claripennis Gr.	**4**	**0.76%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Devonica Gr.	**2**	**0.38%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Gracei Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Thienemanniella sp.	**1**	**0.19%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia sp.	**2**	**0.38%**	**Yes**	**Pupa**		**5**	**CG**
Tanypodinae							
Thienemannimyia Gr.	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**5**	**PR**
Sample Count	527						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC012

RAI No.: **CC18SBC012** Sta. Name: **Silver Bow Creek below German Gulch**
Client ID: **SS-15B**
Date Coll.: **9/21/2018** No. Jars: **2** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	**7**	**1.30%**	**Yes**	**Immature**		**8**	**CG**
Sphaeriidae							
Sphaeriidae	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**CF**
Acari							
Acari	**2**	**0.37%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**16**	**2.97%**	**Yes**	**Larva**		**5**	**CG**
Ephemerellidae							
Drunella sp.	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**1**	**SC**
Heptageniidae							
Cinygmula sp.	**5**	**0.93%**	**Yes**	**Larva**		**0**	**SC**
Rhithrogena sp.	**1**	**0.19%**	**Yes**	**Larva**		**0**	**SC**
Plecoptera							
Nemouridae							
Zapada cinctipes	**8**	**1.49%**	**Yes**	**Larva**		**3**	**SH**
Perlidae							
Hesperoperla pacifica	**5**	**0.93%**	**Yes**	**Larva**		**1**	**PR**
Trichoptera							
Brachycentridae							
Amiocentrus aspilus	**4**	**0.74%**	**Yes**	**Larva**		**3**	**CG**
Brachycentrus occidentalis	**9**	**1.67%**	**Yes**	**Larva**		**2**	**CF**
Micrasema sp.	**2**	**0.37%**	**Yes**	**Larva**		**1**	**SH**
Glossosomatidae							
Glossosoma sp.	**129**	**23.98%**	**Yes**	**Larva**		**0**	**SC**
Glossosomatidae	**1**	**0.19%**	**No**	**Pupa**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**3**	**0.56%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Arctopsyche sp.	**4**	**0.74%**	**Yes**	**Larva**		**2**	**PR**
Hydropsyche sp.	**145**	**26.95%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**138**	**25.65%**	**Yes**	**Larva**		**1**	**SH**
Rhyacophilidae							
Rhyacophila Betteni Gr.	**1**	**0.19%**	**Yes**	**Larva**		**0**	**PR**
Coleoptera							
Elmidae							
Heterlimnius corpulentus	**3**	**0.56%**	**Yes**	**Larva**		**3**	**CG**
Narpus concolor	**1**	**0.19%**	**Yes**	**Larva**		**2**	**CG**
Optioservus sp.	**12**	**2.23%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**5**	**0.93%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**1**	**0.19%**	**Yes**	**Adult**		**5**	**CG**
Zaitzevia sp.	**6**	**1.12%**	**No**	**Larva**		**5**	**CG**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC012

RAI No.: **CC18SBC012** Sta. Name: **Silver Bow Creek below German Gulch**
Client ID: **SS-15B**
Date Coll.: **9/21/2018** No. Jars: **2** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Athericidae							
Atherix sp.	**4**	**0.74%**	**Yes**	**Larva**		**2**	**PR**
Ceratopogonidae							
Ceratopogoninae	**1**	**0.19%**	**Yes**	**Larva**		**6**	**PR**
Empididae							
Neoplasta sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**PR**
Psychodidae							
Pericoma sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**CG**
Simuliidae							
Simulium sp.	**3**	**0.56%**	**No**	**Pupa**		**6**	**CF**
Simulium sp.	**10**	**1.86%**	**Yes**	**Larva**		**6**	**CF**
Tipulidae							
Antocha monticola	**1**	**0.19%**	**Yes**	**Larva**		**3**	**CG**
Chironomidae							
Diamesinae							
Pagastia sp.	**1**	**0.19%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Cricotopus (Isocladius) sp.	**1**	**0.19%**	**Yes**	**Larva**		**7**	**SH**
Eukiefferiella Claripennis Gr.	**3**	**0.56%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Gracei Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Tvetenia Bavarica Gr.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Sample Count	538						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC013

RAI No.: **CC18SBC013** Sta. Name: **German Gulch near confluence**
Client ID: **SS-15G**
Date Coll.: **9/21/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata							
Nemata	**20**	**3.72%**	**Yes**	**Unknown**		**5**	**UN**
Enchytraeidae							
Mesenchytraeus sp.	**3**	**0.56%**	**Yes**	**Unknown**		**4**	**CG**
Sphaeriidae							
Sphaeriidae	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**CF**
Ostracoda							
Ostracoda	**2**	**0.37%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**1**	**0.19%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**48**	**8.94%**	**Yes**	**Larva**		**5**	**CG**
Ephemerellidae							
Caudatella sp.	**5**	**0.93%**	**Yes**	**Larva**	**Early Instar**	**0**	**CG**
Drunella doddsii	**4**	**0.74%**	**Yes**	**Larva**		**1**	**SC**
Drunella grandis	**1**	**0.19%**	**Yes**	**Larva**		**2**	**PR**
Ephemerella sp.	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**1.5**	**SC**
Heptageniidae							
Cinygmula sp.	**58**	**10.80%**	**Yes**	**Larva**		**0**	**SC**
Rhithrogena sp.	**12**	**2.23%**	**Yes**	**Larva**		**0**	**SC**
Plecoptera							
Chloroperlidae							
Sweltsa sp.	**3**	**0.56%**	**Yes**	**Larva**		**0**	**PR**
Leuctridae							
Leuctridae	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**0**	**SH**
Nemouridae							
Zapada cinctipes	**13**	**2.42%**	**Yes**	**Larva**		**3**	**SH**
Perlidae							
Doroneuria sp.	**5**	**0.93%**	**Yes**	**Larva**		**0**	**PR**
Hesperoperla pacifica	**21**	**3.91%**	**Yes**	**Larva**		**1**	**PR**
Perlodidae							
Kogotus sp.	**1**	**0.19%**	**Yes**	**Larva**		**1**	**PR**
Skwala sp.	**1**	**0.19%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Brachycentrus americanus	**2**	**0.37%**	**Yes**	**Larva**		**1**	**CF**
Micrasema sp.	**2**	**0.37%**	**Yes**	**Larva**		**1**	**SH**
Glossosomatidae							
Glossosoma sp.	**4**	**0.74%**	**Yes**	**Larva**		**0**	**SC**
Hydropsychidae							
Arctopsyche sp.	**13**	**2.42%**	**Yes**	**Larva**		**2**	**PR**
Lepidostomatidae							
Lepidostoma sp.	**9**	**1.68%**	**Yes**	**Larva**		**1**	**SH**
Philopotamidae							
Dolophilodes sp.	**7**	**1.30%**	**Yes**	**Larva**		**0**	**CF**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC013

RAI No.: **CC18SBC013** Sta. Name: **German Gulch near confluence**
Client ID: **SS-15G**
Date Coll.: **9/21/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Coleoptera							
Elmidae							
Heterlimnius corpulentus	**22**	**4.10%**	**Yes**	**Larva**		**3**	**CG**
Optioservus sp.	**6**	**1.12%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**5**	**0.93%**	**Yes**	**Adult**		**5**	**SC**
Zaitzevia sp.	**2**	**0.37%**	**Yes**	**Adult**		**5**	**CG**
Zaitzevia sp.	**1**	**0.19%**	**No**	**Larva**		**5**	**CG**
Diptera							
Psychodidae							
Pericoma sp.	**6**	**1.12%**	**Yes**	**Larva**		**4**	**CG**
Simuliidae							
Simulium sp.	**218**	**40.60%**	**Yes**	**Larva**		**6**	**CF**
Simulium sp.	**22**	**4.10%**	**No**	**Pupa**		**6**	**CF**
Tipulidae							
Dicranota sp.	**1**	**0.19%**	**Yes**	**Larva**		**3**	**PR**
Hexatoma sp.	**2**	**0.37%**	**Yes**	**Larva**		**2**	**PR**
Rhabdomastix Fascigera Gr.	**1**	**0.19%**	**Yes**	**Larva**		**1**	**PR**
Chironomidae							
Orthocladiinae							
Brillia sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**SH**
Cardiocladius sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**PR**
Cricotopus (Nostococladius) sp.	**3**	**0.56%**	**Yes**	**Larva**		**6**	**SH**
Eukiefferiella Claripennis Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Gracei Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Orthocladius sp.	**3**	**0.56%**	**Yes**	**Larva**		**6**	**CG**
Tvetenia Bavarica Gr.	**3**	**0.56%**	**Yes**	**Larva**		**5**	**CG**
Sample Count	537						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC014

RAI No.: **CC18SBC014** Sta. Name: **Silver Bow Creek in Reach P near Fairmont**
Client ID: **SS-16B**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Other Non-Insect							
Nemata							
Nemata	**1**	**0.19%**	**Yes**	**Unknown**		**5**	**UN**
Naididae							
Naididae	**3**	**0.57%**	**Yes**	**Immature**		**8**	**CG**
Physidae							
Physidae	**3**	**0.57%**	**Yes**	**Unknown**		**8**	**SC**
Acari							
Acari	**1**	**0.19%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**3**	**0.57%**	**Yes**	**Larva**		**5**	**CG**
Ephemerellidae							
Drunella sp.	**5**	**0.95%**	**Yes**	**Larva**	**Early Instar**	**1**	**SC**
Plecoptera							
Perlodidae							
Skwala sp.	**1**	**0.19%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**63**	**12.02%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**39**	**7.44%**	**Yes**	**Larva**		**0**	**SC**
Glossosomatidae	**3**	**0.57%**	**No**	**Pupa**		**0**	**SC**
Protoptila sp.	**1**	**0.19%**	**Yes**	**Larva**		**1**	**SC**
Helicopsychidae							
Helicopsyche sp.	**54**	**10.31%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**16**	**3.05%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**28**	**5.34%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**257**	**49.05%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Oecetis sp.	**7**	**1.34%**	**Yes**	**Larva**		**8**	**PR**
Rhyacophilidae							
Rhyacophila Brunnea/Vemna Gr.	**1**	**0.19%**	**Yes**	**Larva**		**2**	**PR**
Coleoptera							
Elmidae							
Optioservus sp.	**7**	**1.34%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**16**	**3.05%**	**No**	**Larva**		**5**	**SC**
Zaitzevia sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Diptera							
Empididae							
Neoplasta sp.	**2**	**0.38%**	**Yes**	**Larva**		**5**	**PR**
Simuliidae							
Simulium sp.	**2**	**0.38%**	**Yes**	**Larva**		**6**	**CF**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC014

RAI No.: **CC18SBC014** Sta. Name: **Silver Bow Creek in Reach P near Fairmont**
Client ID: **SS-16B**
Date Coll.: **9/19/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Chironomidae							
Chironominae							
Microtendipes sp.	**4**	**0.76%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Pagastia sp.	**2**	**0.38%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Eukiefferiella sp.	**1**	**0.19%**	**No**	**Pupa**		**8**	**CG**
Eukiefferiella Claripennis Gr.	**3**	**0.57%**	**Yes**	**Larva**		**8**	**CG**
Sample Count	524						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC015

RAI No.: **CC18SBC015**
Client ID: **SS-17D**
Date Coll.: **9/20/2018** No. Jars: **1**
Sta. Name: **Silver Bow Creek below Stewart Street at Opportunity**
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	**2**	**0.38%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Tubificinae	**1**	**0.19%**	**Yes**	**Immature**		**11**	**CG**
Sphaeriidae							
Sphaeriidae	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**CF**
Physidae							
Physidae	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**SC**
Hyalellidae							
Hyalella sp.	**1**	**0.19%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**4**	**0.76%**	**Yes**	**Unknown**		**5**	**PR**
Odonata							
Gomphidae							
Gomphidae	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**2.5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**2**	**0.38%**	**Yes**	**Larva**		**5**	**CG**
Plecoptera							
Perlodidae							
Isoperla sp.	**1**	**0.19%**	**Yes**	**Larva**		**2**	**PR**
Skwala sp.	**7**	**1.33%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**42**	**7.98%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**169**	**32.13%**	**Yes**	**Larva**		**0**	**SC**
Glossosomatidae	**2**	**0.38%**	**No**	**Pupa**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**9**	**1.71%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Cheumatopsyche sp.	**15**	**2.85%**	**Yes**	**Larva**		**5**	**CF**
Hydropsyche sp.	**20**	**3.80%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**206**	**39.16%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Oecetis sp.	**2**	**0.38%**	**Yes**	**Larva**		**8**	**PR**
Coleoptera							
Elmidae							
Optioservus sp.	**4**	**0.76%**	**Yes**	**Adult**		**5**	**SC**
Optioservus sp.	**12**	**2.28%**	**No**	**Larva**		**5**	**SC**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC015

RAI No.: **CC18SBC015**
Client ID: **SS-17D**
Date Coll.: **9/20/2018** No. Jars: **1**
Sta. Name: **Silver Bow Creek below Stewart Street at Opportunity**
STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Simuliidae							
Simulium sp.	**5**	**0.95%**	**Yes**	**Larva**		**6**	**CF**
Simulium sp.	**2**	**0.38%**	**No**	**Pupa**		**6**	**CF**
Tipulidae							
Limnophila sp.	**1**	**0.19%**	**Yes**	**Larva**		**3**	**PR**
Tipula sp.	**1**	**0.19%**	**Yes**	**Larva**		**4**	**SH**
Chironomidae							
Chironominae							
Microtendipes sp.	**8**	**1.52%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Pagastia sp.	**3**	**0.57%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Eukiefferiella Brevicalcar Gr.	**1**	**0.19%**	**Yes**	**Larva**		**8**	**CG**
Eukiefferiella Claripennis Gr.	**2**	**0.38%**	**Yes**	**Larva**		**8**	**CG**
Tanypodinae							
Conchapelopia sp.	**1**	**0.19%**	**Yes**	**Pupa**		**6**	**PR**
Sample Count	526						

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC016

RAI No.: **CC18SBC016** Sta. Name: **Silver Bow Creek at Frontage Road**
Client ID: **SS-19**
Date Coll.: **9/20/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Oligochaeta							
Naididae							
Naididae	**3**	**0.57%**	**Yes**	**Immature**		**8**	**CG**
Naididae							
Limnodrilus sp.	**3**	**0.57%**	**Yes**	**Unknown**		**10**	**CG**
Lymnaeidae							
Lymnaeidae	**1**	**0.19%**	**Yes**	**Immature**		**6**	**SC**
Physidae							
Physidae	**3**	**0.57%**	**Yes**	**Unknown**		**8**	**SC**
Hyalellidae							
Hyalella sp.	**3**	**0.57%**	**Yes**	**Unknown**		**8**	**CG**
Acari							
Acari	**7**	**1.33%**	**Yes**	**Unknown**		**5**	**PR**
Ephemeroptera							
Baetidae							
Baetis tricaudatus complex	**4**	**0.76%**	**Yes**	**Larva**		**5**	**CG**
Ephemerellidae							
Attenella sp.	**1**	**0.19%**	**Yes**	**Larva**	**Early Instar**	**2**	**CG**
Leptohyphidae							
Tricorythodes sp.	**5**	**0.95%**	**Yes**	**Larva**		**4**	**CG**
Plecoptera							
Perlodidae							
Isoperla sp.	**2**	**0.38%**	**Yes**	**Larva**		**2**	**PR**
Skwala sp.	**2**	**0.38%**	**Yes**	**Larva**		**3**	**PR**
Trichoptera							
Brachycentridae							
Brachycentrus occidentalis	**62**	**11.81%**	**Yes**	**Larva**		**2**	**CF**
Glossosomatidae							
Glossosoma sp.	**19**	**3.62%**	**Yes**	**Larva**		**0**	**SC**
Helicopsychidae							
Helicopsyche sp.	**42**	**8.00%**	**Yes**	**Larva**		**3**	**SC**
Hydropsychidae							
Hydropsyche sp.	**71**	**13.52%**	**Yes**	**Larva**		**5**	**CF**
Lepidostomatidae							
Lepidostoma sp.	**215**	**40.95%**	**Yes**	**Larva**		**1**	**SH**
Leptoceridae							
Oecetis sp.	**6**	**1.14%**	**Yes**	**Larva**		**8**	**PR**
Rhyacophilidae							
Rhyacophila sp.	**2**	**0.38%**	**Yes**	**Pupa**		**1**	**PR**
Coleoptera							
Dytiscidae							
Oreodytes sp.	**3**	**0.57%**	**Yes**	**Adult**		**5**	**PR**
Elmidae							
Optioservus sp.	**26**	**4.95%**	**No**	**Larva**		**5**	**SC**
Optioservus sp.	**6**	**1.14%**	**Yes**	**Adult**		**5**	**SC**

Taxa Listing

Project ID: CC18SBC
RAI No.: CC18SBC016

RAI No.: **CC18SBC016** Sta. Name: **Silver Bow Creek at Frontage Road**
Client ID: **SS-19**
Date Coll.: **9/20/2018** No. Jars: **1** STORET ID:

Taxonomic Name	Count	PRA	Unique	Stage	Qualifier	BI	Function
Diptera							
Tipulidae							
Hexatoma sp.	**2**	**0.38%**	**Yes**	**Larva**		**2**	**PR**
Chironomidae							
Chironominae							
Microtendipes sp.	**34**	**6.48%**	**Yes**	**Larva**		**6**	**CF**
Diamesinae							
Pagastia sp.	**2**	**0.38%**	**Yes**	**Larva**		**1**	**CG**
Orthocladiinae							
Parametriocnemus sp.	**1**	**0.19%**	**Yes**	**Larva**		**5**	**CG**
Sample Count	525						

Metrics Report

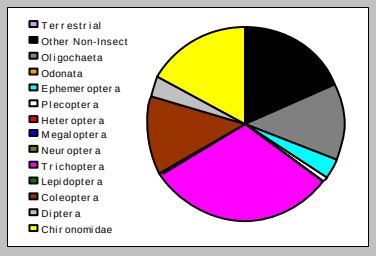
Project ID: CC18SBC
RAI No.: CC18SBC001
Sta. Name: Blacktail Creek at Father Sheehan Park
Client ID: SS-01
STORET ID
Coll. Date: 9/18/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 537
Sample Abundance: 2,685.00 20.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	7	100	18.62%
Oligochaeta	4	66	12.29%
Odonata			
Ephemeroptera	3	19	3.54%
Plecoptera	2	4	0.74%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	5	168	31.28%
Lepidoptera			
Coleoptera	4	71	13.22%
Diptera	5	17	3.17%
Chironomidae	17	92	17.13%

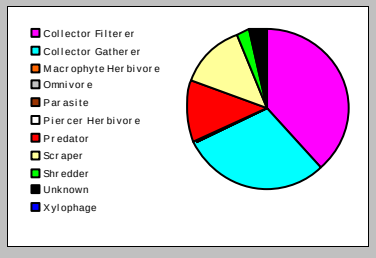


Dominant Taxa

Category	A	PRA
Brachycentrus americanus	156	29.05%
Optioservus	66	12.29%
Sphaeriidae	43	8.01%
Orthocladius	33	6.15%
Acari	31	5.77%
Naididae	23	4.28%
Ophidonais serpentina	19	3.54%
Parametriocnemus	16	2.98%
Nemata	16	2.98%
Baetis tricaudatus complex	15	2.79%
Tubificinae	13	2.42%
Neoplasta	11	2.05%
Nais	10	1.86%
Procladius	9	1.68%
Cricotopus (Isocladius)	6	1.12%

Functional Composition

Category	R	A	PRA
Predator	11	67	12.48%
Parasite			
Collector Gatherer	20	159	29.61%
Collector Filterer	5	206	38.36%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	72	13.41%
Shredder	4	15	2.79%
Omnivore			
Unknown	2	18	3.35%

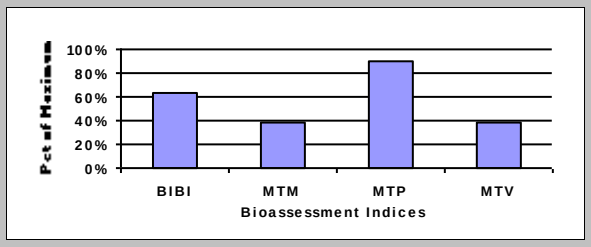


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	47
E Richness	3
P Richness	2
T Richness	5
EPT Richness	10
EPT Percent	35.57%
All Non-Insect Abundance	166
All Non-Insect Richness	11
All Non-Insect Percent	30.91%
Oligochaeta+Hirudinea Percent	12.29%
Baetidae/Ephemeroptera	0.842
Hydropsychidae/Trichoptera	0.012
Dominance	
Dominant Taxon Percent	29.05%
Dominant Taxa (2) Percent	41.34%
Dominant Taxa (3) Percent	49.35%
Dominant Taxa (10) Percent	77.84%
Diversity	
Shannon H (loge)	2.663
Shannon H (log2)	3.841
Margalef D	7.538
Simpson D	0.149
Evenness	0.692
Function	
Predator Richness	11
Predator Percent	12.48%
Filterer Richness	5
Filterer Percent	38.36%
Collector Percent	67.97%
Scraper+Shredder Percent	16.20%
Scraper/Filterer	0.350
Scraper/Scraper+Filterer	0.259
Habit	
Burrower Richness	4
Burrower Percent	2.98%
Swimmer Richness	2
Swimmer Percent	2.98%
Clinger Richness	15
Clinger Percent	48.04%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	5
Hemoglobin Bearer Percent	2.98%
Air Breather Richness	2
Air Breather Percent	0.37%
Voltinism	
Univoltine Richness	18
Semivoltine Richness	5
Multivoltine Percent	26.63%
Tolerance	
Sediment Tolerant Richness	4
Sediment Tolerant Percent	1.12%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.19%
Metals Tolerance Index	4.270
Pollution Sensitive Richness	0
Pollution Tolerant Percent	16.01%
Hilsenhoff Biotic Index	4.433
Intolerant Percent	30.73%
Supertolerant Percent	18.06%
CTQa	87.447

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	32	64.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	27	90.00%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	7	38.89%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	8	38.10%	Moderate



Metrics Report

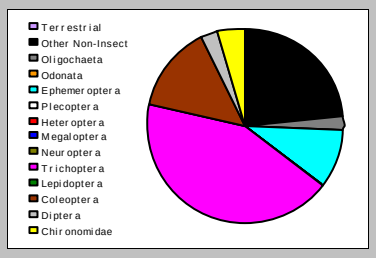
Project ID: CC18SBC
RAI No.: CC18SBC002
Sta. Name: Silver Bow Creek above Butte Reduction Works
Client ID: SS-05A
STORET ID
Coll. Date: 9/18/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 544
Sample Abundance: 5,440.00 10.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	6	128	23.53%
Oligochaeta	2	11	2.02%
Odonata			
Ephemeroptera	1	55	10.11%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	233	42.83%
Lepidoptera			
Coleoptera	4	77	14.15%
Diptera	5	17	3.13%
Chironomidae	8	23	4.23%

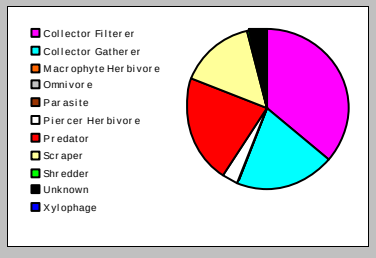


Dominant Taxa

Category	A	PRA
Hydropsyche	89	16.36%
Cheumatopsyche	88	16.18%
Acari	86	15.81%
Optioservus	70	12.87%
Baetis tricaudatus complex	55	10.11%
Amiocentrus aspilus	21	3.86%
Nemata	18	3.31%
Hydroptilidae	12	2.21%
Brachycentrus occidentalis	11	2.02%
Trepaxonemata	10	1.84%
Stagnicola	9	1.65%
Oecetis	8	1.47%
Thienemannimyia Gr.	7	1.29%
Naididae	6	1.10%
Muscidae	5	0.92%

Functional Composition

Category	R	A	PRA
Predator	7	121	22.24%
Parasite			
Collector Gatherer	12	107	19.67%
Collector Filterer	7	197	36.21%
Macrophyte Herbivore			
Piercer Herbivore	2	15	2.76%
Xylophage			
Scraper	3	82	15.07%
Shredder	1	4	0.74%
Omnivore			
Unknown	1	18	3.31%

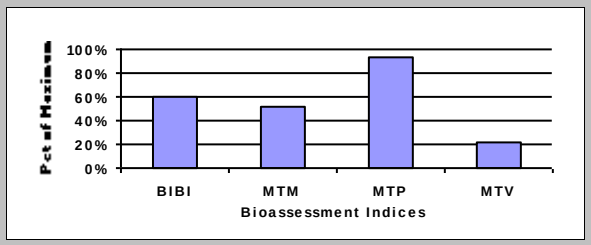


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	33
E Richness	1
P Richness	0
T Richness	7
EPT Richness	8
EPT Percent	52.94%
All Non-Insect Abundance	139
All Non-Insect Richness	8
All Non-Insect Percent	25.55%
Oligochaeta+Hirudinea Percent	2.02%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.760
Dominance	
Dominant Taxon Percent	16.36%
Dominant Taxa (2) Percent	32.54%
Dominant Taxa (3) Percent	48.35%
Dominant Taxa (10) Percent	84.56%
Diversity	
Shannon H (loge)	2.509
Shannon H (log2)	3.619
Margalef D	5.210
Simpson D	0.125
Evenness	0.717
Function	
Predator Richness	7
Predator Percent	22.24%
Filterer Richness	7
Filterer Percent	36.21%
Collector Percent	55.88%
Scraper+Shredder Percent	15.81%
Scraper/Filterer	0.416
Scraper/Scraper+Filterer	0.294
Habit	
Burrower Richness	2
Burrower Percent	1.47%
Swimmer Richness	2
Swimmer Percent	10.29%
Clinger Richness	12
Clinger Percent	57.72%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	0.92%
Air Breather Richness	2
Air Breather Percent	0.92%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	6
Multivoltine Percent	34.56%
Tolerance	
Sediment Tolerant Richness	4
Sediment Tolerant Percent	3.13%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.688
Pollution Sensitive Richness	0
Pollution Tolerant Percent	34.74%
Hilsenhoff Biotic Index	4.961
Intolerant Percent	2.94%
Supertolerant Percent	4.60%
CTQa	88.767

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	30	60.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	28	93.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	11	52.38%	Moderate



Metrics Report

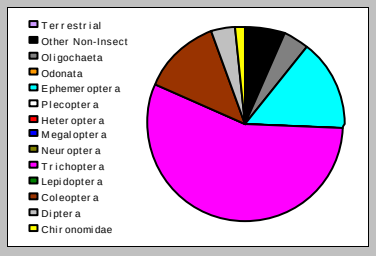
Project ID: CC18SBC
RAI No.: CC18SBC003
Sta. Name: Silver Bow Creek above WWTP
Client ID: SS-06G
STORET ID
Coll. Date: 9/17/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 550
Sample Abundance: 16,500.00 3.33% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	37	6.73%
Oligochaeta	4	22	4.00%
Odonata			
Ephemeroptera	1	82	14.91%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	308	56.00%
Lepidoptera			
Coleoptera	2	72	13.09%
Diptera	2	20	3.64%
Chironomidae	5	9	1.64%

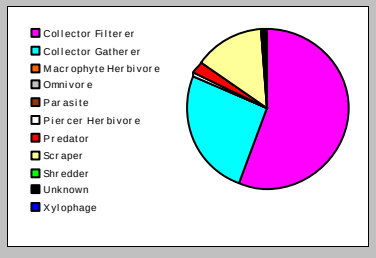


Dominant Taxa

Category	A	PRA
Hydropsyche	204	37.09%
Baetis tricaudatus complex	82	14.91%
Optioservus	71	12.91%
Cheumatopsyche	60	10.91%
Amiocentrus aspilus	30	5.45%
Simulium	19	3.45%
Naididae	17	3.09%
Sphaeriidae	15	2.73%
Acari	9	1.64%
Nemata	7	1.27%
Oecetis	6	1.09%
Stagnicola	5	0.91%
Eukiefferiella Devonica Gr.	5	0.91%
Brachycentrus occidentalis	5	0.91%
Hydroptilidae	2	0.36%

Functional Composition

Category	R	A	PRA
Predator	3	16	2.91%
Parasite			
Collector Gatherer	12	144	26.18%
Collector Filterer	6	304	55.27%
Macrophyte Herbivore			
Piercer Herbivore	1	2	0.36%
Xylophage			
Scraper	2	76	13.82%
Shredder	1	1	0.18%
Omnivore			
Unknown	1	7	1.27%

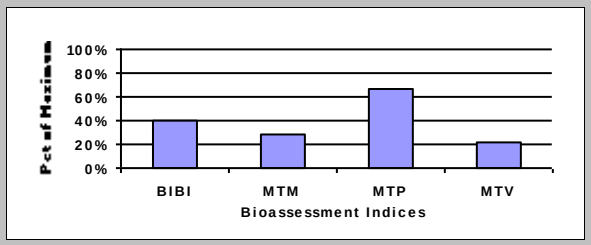


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	26
E Richness	1
P Richness	0
T Richness	7
EPT Richness	8
EPT Percent	70.91%
All Non-Insect Abundance	59
All Non-Insect Richness	9
All Non-Insect Percent	10.73%
Oligochaeta+Hirudinea Percent	4.00%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.857
Dominance	
Dominant Taxon Percent	37.09%
Dominant Taxa (2) Percent	52.00%
Dominant Taxa (3) Percent	64.91%
Dominant Taxa (10) Percent	93.45%
Diversity	
Shannon H (loge)	2.038
Shannon H (log2)	2.941
Margalef D	4.036
Simpson D	0.224
Evenness	0.626
Function	
Predator Richness	3
Predator Percent	2.91%
Filterer Richness	6
Filterer Percent	55.27%
Collector Percent	81.45%
Scraper+Shredder Percent	14.00%
Scraper/Filterer	0.250
Scraper/Scraper+Filterer	0.200
Habit	
Burrower Richness	1
Burrower Percent	0.18%
Swimmer Richness	1
Swimmer Percent	14.91%
Clinger Richness	10
Clinger Percent	72.55%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	0
Hemoglobin Bearer Percent	0.00%
Air Breather Richness	1
Air Breather Percent	0.18%
Voltinism	
Univoltine Richness	11
Semivoltine Richness	4
Multivoltine Percent	18.73%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	1.09%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	4.661
Pollution Sensitive Richness	0
Pollution Tolerant Percent	25.82%
Hilsenhoff Biotic Index	5.140
Intolerant Percent	1.09%
Supertolerant Percent	8.36%
CTQa	88.818

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	20	66.67%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	6	28.57%	Moderate



Metrics Report

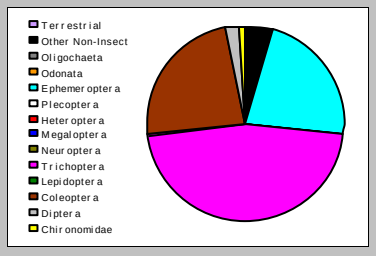
Project ID: CC18SBC
RAI No.: CC18SBC004
Sta. Name: Silver Bow Creek below WWTP
Client ID: SS-07
STORET ID
Coll. Date: 9/17/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 544
Sample Abundance: 8,160.00 6.67% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	22	4.04%
Oligochaeta	1	2	0.37%
Odonata			
Ephemeroptera	1	121	22.24%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	8	253	46.51%
Lepidoptera			
Coleoptera	2	131	24.08%
Diptera	4	10	1.84%
Chironomidae	3	5	0.92%

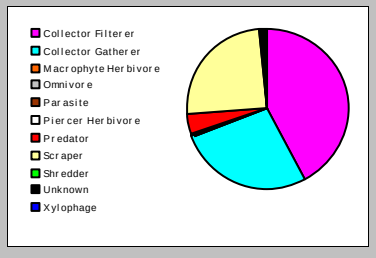


Dominant Taxa

Category	A	PRA
Hydropsyche	198	36.40%
Optioservus	130	23.90%
Baetis tricaudatus complex	121	22.24%
Amiocentrus aspilus	24	4.41%
Cheumatopsyche	11	2.02%
Oecetis	10	1.84%
Sphaeriidae	7	1.29%
Simulium	6	1.10%
Nemata	6	1.10%
Acari	6	1.10%
Brachycentrus occidentalis	4	0.74%
Thienemannimyia Gr.	3	0.55%
Tipula	2	0.37%
Naididae	2	0.37%
Hydropsychidae	2	0.37%

Functional Composition

Category	R	A	PRA
Predator	5	21	3.86%
Parasite			
Collector Gatherer	5	149	27.39%
Collector Filterer	5	228	41.91%
Macrophyte Herbivore			
Piercer Herbivore	1	1	0.18%
Xylophage			
Scraper	5	136	25.00%
Shredder	2	3	0.55%
Omnivore			
Unknown	1	6	1.10%

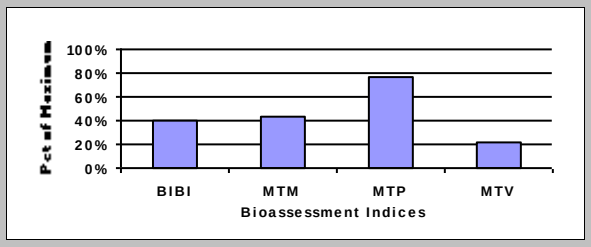


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	24
E Richness	1
P Richness	0
T Richness	8
EPT Richness	9
EPT Percent	68.75%
All Non-Insect Abundance	24
All Non-Insect Richness	6
All Non-Insect Percent	4.41%
Oligochaeta+Hirudinea Percent	0.37%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.834
Dominance	
Dominant Taxon Percent	36.40%
Dominant Taxa (2) Percent	60.29%
Dominant Taxa (3) Percent	82.54%
Dominant Taxa (10) Percent	95.40%
Diversity	
Shannon H (loge)	1.664
Shannon H (log2)	2.400
Margalef D	3.811
Simpson D	0.313
Evenness	0.523
Function	
Predator Richness	5
Predator Percent	3.86%
Filterer Richness	5
Filterer Percent	41.91%
Collector Percent	69.30%
Scraper+Shredder Percent	25.55%
Scraper/Filterer	0.596
Scraper/Scraper+Filterer	0.374
Habit	
Burrower Richness	2
Burrower Percent	0.55%
Swimmer Richness	1
Swimmer Percent	22.24%
Clinger Richness	12
Clinger Percent	71.88%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	0.18%
Air Breather Richness	1
Air Breather Percent	0.37%
Voltinism	
Univoltine Richness	14
Semivoltine Richness	3
Multivoltine Percent	24.45%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	0.92%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.18%
Metals Tolerance Index	4.708
Pollution Sensitive Richness	0
Pollution Tolerant Percent	28.86%
Hilsenhoff Biotic Index	4.996
Intolerant Percent	1.10%
Supertolerant Percent	3.86%
CTQa	83.000

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	23	76.67%	Slight
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Metrics Report

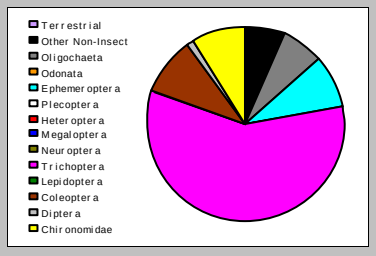
Project ID: CC18SBC
RAI No.: CC18SBC005
Sta. Name: Silver Bow Creek at Rocker
Client ID: SS-08
STORET ID
Coll. Date: 9/17/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 531
Sample Abundance: 3,982.50 13.33% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	5	36	6.78%
Oligochaeta	2	36	6.78%
Odonata			
Ephemeroptera	1	48	9.04%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	8	306	57.63%
Lepidoptera	1	1	0.19%
Coleoptera	1	51	9.60%
Diptera	4	6	1.13%
Chironomidae	9	47	8.85%

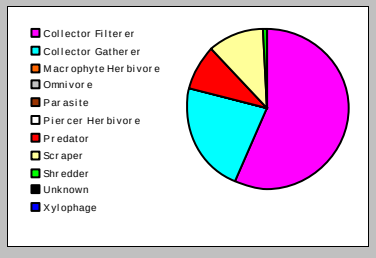


Dominant Taxa

Category	A	PRA
Cheumatopsyche	130	24.48%
Hydropsyche	106	19.96%
Optioservus	51	9.60%
Brachycentrus occidentalis	48	9.04%
Baetis tricaudatus complex	48	9.04%
Naididae	26	4.90%
Acari	20	3.77%
Eukiefferiella Devonica Gr.	15	2.82%
Oecetis	14	2.64%
Tubificinae	10	1.88%
Microtendipes	8	1.51%
Tvetenia Bavarica Gr.	7	1.32%
Stagnicola	6	1.13%
Eukiefferiella Brehmi Gr.	6	1.13%
Thienemannimyia Gr.	5	0.94%

Functional Composition

Category	R	A	PRA
Predator	7	47	8.85%
Parasite			
Collector Gatherer	10	121	22.79%
Collector Filterer	6	298	56.12%
Macrophyte Herbivore			
Piercer Herbivore	1	2	0.38%
Xylophage			
Scraper	4	59	11.11%
Shredder	3	4	0.75%
Omnivore			
Unknown			

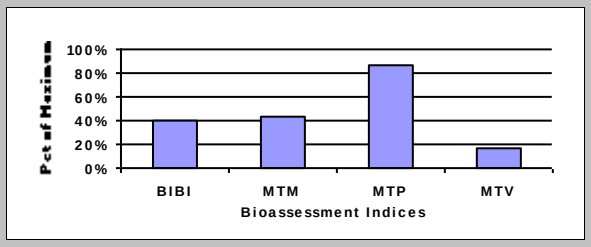


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	31
E Richness	1
P Richness	0
T Richness	8
EPT Richness	9
EPT Percent	66.67%
All Non-Insect Abundance	72
All Non-Insect Richness	7
All Non-Insect Percent	13.56%
Oligochaeta+Hirudinea Percent	6.97%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.771
Dominance	
Dominant Taxon Percent	24.48%
Dominant Taxa (2) Percent	44.44%
Dominant Taxa (3) Percent	54.05%
Dominant Taxa (10) Percent	88.14%
Diversity	
Shannon H (loge)	2.399
Shannon H (log2)	3.461
Margalef D	4.846
Simpson D	0.144
Evenness	0.699
Function	
Predator Richness	7
Predator Percent	8.85%
Filterer Richness	6
Filterer Percent	56.12%
Collector Percent	78.91%
Scraper+Shredder Percent	11.86%
Scraper/Filterer	0.198
Scraper/Scraper+Filterer	0.165
Habit	
Burrower Richness	3
Burrower Percent	0.75%
Swimmer Richness	1
Swimmer Percent	9.04%
Clinger Richness	11
Clinger Percent	68.93%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	1.51%
Air Breather Richness	1
Air Breather Percent	0.38%
Voltinism	
Univoltine Richness	15
Semivoltine Richness	2
Multivoltine Percent	22.79%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	1.51%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.19%
Metals Tolerance Index	4.688
Pollution Sensitive Richness	0
Pollution Tolerant Percent	38.61%
Hilsenhoff Biotic Index	5.131
Intolerant Percent	9.42%
Supertolerant Percent	13.56%
CTQa	84.792

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	20	40.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	26	86.67%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	3	16.67%	Severe
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Metrics Report

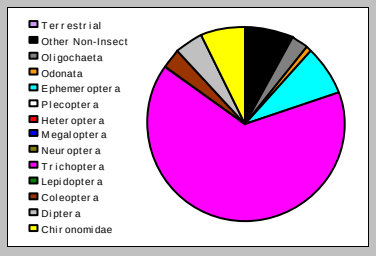
Project ID: CC18SBC
RAI No.: CC18SBC006
Sta. Name: Silver Bow Creek above Sand Creek
Client ID: SS-10A
STORET ID
Coll. Date: 9/18/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 502
Sample Abundance: 5,020.00 10.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	4	41	8.17%
Oligochaeta	3	15	2.99%
Odonata	2	2	0.40%
Ephemeroptera	1	43	8.57%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	326	64.94%
Lepidoptera			
Coleoptera	3	16	3.19%
Diptera	3	23	4.58%
Chironomidae	7	36	7.17%

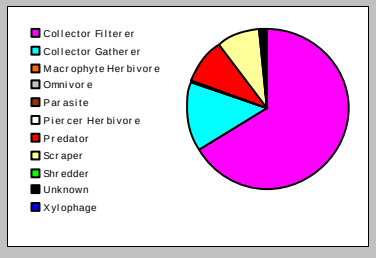


Dominant Taxa

Category	A	PRA
Hydropsyche	105	20.92%
Cheumatopsyche	102	20.32%
Brachycentrus occidentalis	87	17.33%
Baetis tricaudatus complex	43	8.57%
Helicopsyche	25	4.98%
Simulium	21	4.18%
Acari	20	3.98%
Thienemannimyia Gr.	13	2.59%
Optioservus	13	2.59%
Naididae	13	2.59%
Sphaeriidae	9	1.79%
Nemata	7	1.39%
Microtendipes	6	1.20%
Eukiefferiella Devonica Gr.	6	1.20%
Eukiefferiella Brehmi Gr.	5	1.00%

Functional Composition

Category	R	A	PRA
Predator	8	47	9.36%
Parasite			
Collector Gatherer	9	73	14.54%
Collector Filterer	6	330	65.74%
Macrophyte Herbivore			
Piercer Herbivore	1	1	0.20%
Xylophage			
Scraper	4	43	8.57%
Shredder	1	1	0.20%
Omnivore			
Unknown	1	7	1.39%

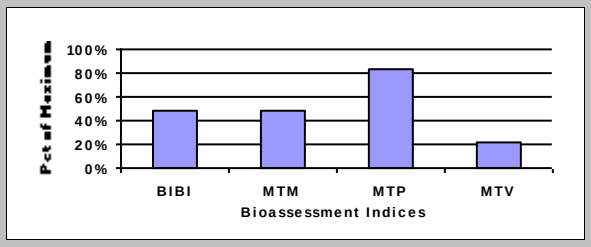


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	30
E Richness	1
P Richness	0
T Richness	7
EPT Richness	8
EPT Percent	73.51%
All Non-Insect Abundance	56
All Non-Insect Richness	7
All Non-Insect Percent	11.16%
Oligochaeta+Hirudinea Percent	2.99%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.635
Dominance	
Dominant Taxon Percent	20.92%
Dominant Taxa (2) Percent	41.24%
Dominant Taxa (3) Percent	58.57%
Dominant Taxa (10) Percent	88.05%
Diversity	
Shannon H (loge)	2.399
Shannon H (log2)	3.461
Margalef D	4.679
Simpson D	0.134
Evenness	0.705
Function	
Predator Richness	8
Predator Percent	9.36%
Filterer Richness	6
Filterer Percent	65.74%
Collector Percent	80.28%
Scraper+Shredder Percent	8.76%
Scraper/Filterer	0.130
Scraper/Scraper+Filterer	0.115
Habit	
Burrower Richness	2
Burrower Percent	0.40%
Swimmer Richness	1
Swimmer Percent	8.57%
Clinger Richness	13
Clinger Percent	74.30%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	2.39%
Air Breather Richness	1
Air Breather Percent	0.20%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	5
Multivoltine Percent	20.92%
Tolerance	
Sediment Tolerant Richness	1
Sediment Tolerant Percent	0.20%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.20%
Metals Tolerance Index	4.450
Pollution Sensitive Richness	0
Pollution Tolerant Percent	30.08%
Hilsenhoff Biotic Index	4.678
Intolerant Percent	17.53%
Supertolerant Percent	8.17%
CTQa	91.385

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Metrics Report

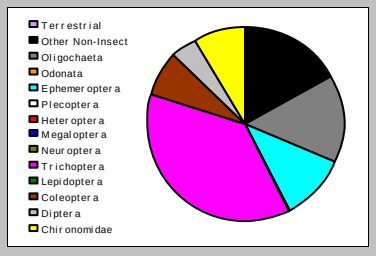
Project ID: CC18SBC
RAI No.: CC18SBC007
Sta. Name: Silver Bow Creek above Browns Gulch
Client ID: SS-11C
STORET ID
Coll. Date: 9/19/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 550
Sample Abundance: 2,750.00 20.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	6	95	17.27%
Oligochaeta	3	78	14.18%
Odonata			
Ephemeroptera	1	60	10.91%
Plecoptera			
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	8	207	37.64%
Lepidoptera			
Coleoptera	2	39	7.09%
Diptera	3	25	4.55%
Chironomidae	5	46	8.36%

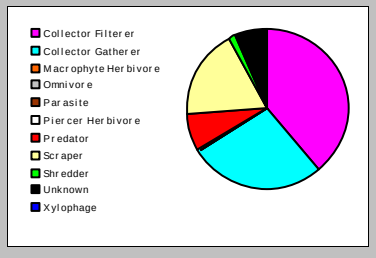


Dominant Taxa

Category	A	PRA
Brachycentrus occidentalis	99	18.00%
Naididae	74	13.45%
Helicopsyche	61	11.09%
Baetis tricaudatus complex	60	10.91%
Optioservus	37	6.73%
Sphaeriidae	36	6.55%
Nemata	35	6.36%
Microtendipes	24	4.36%
Simulium	23	4.18%
Cheumatopsyche	19	3.45%
Acari	16	2.91%
Thienemannimyia Gr.	15	2.73%
Hydropsyche	12	2.18%
Oecetis	6	1.09%
Nectopsyche	5	0.91%

Functional Composition

Category	R	A	PRA
Predator	7	41	7.45%
Parasite			
Collector Gatherer	7	150	27.27%
Collector Filterer	6	213	38.73%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	102	18.55%
Shredder	2	9	1.64%
Omnivore			
Unknown	1	35	6.36%

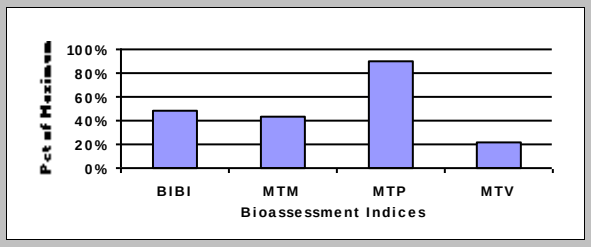


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	28
E Richness	1
P Richness	0
T Richness	8
EPT Richness	9
EPT Percent	48.55%
All Non-Insect Abundance	173
All Non-Insect Richness	9
All Non-Insect Percent	31.45%
Oligochaeta+Hirudinea Percent	14.36%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.150
Dominance	
Dominant Taxon Percent	18.00%
Dominant Taxa (2) Percent	31.45%
Dominant Taxa (3) Percent	42.55%
Dominant Taxa (10) Percent	85.09%
Diversity	
Shannon H (loge)	2.572
Shannon H (log2)	3.711
Margalef D	4.323
Simpson D	0.101
Evenness	0.772
Function	
Predator Richness	7
Predator Percent	7.45%
Filterer Richness	6
Filterer Percent	38.73%
Collector Percent	66.00%
Scraper+Shredder Percent	20.18%
Scraper/Filterer	0.479
Scraper/Scraper+Filterer	0.324
Habit	
Burrower Richness	0
Burrower Percent	0.18%
Swimmer Richness	2
Swimmer Percent	11.82%
Clinger Richness	11
Clinger Percent	51.82%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	4.73%
Air Breather Richness	1
Air Breather Percent	0.18%
Voltinism	
Univoltine Richness	17
Semivoltine Richness	3
Multivoltine Percent	22.18%
Tolerance	
Sediment Tolerant Richness	0
Sediment Tolerant Percent	0.00%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.18%
Metals Tolerance Index	4.090
Pollution Sensitive Richness	0
Pollution Tolerant Percent	24.18%
Hilsenhoff Biotic Index	4.969
Intolerant Percent	19.82%
Supertolerant Percent	23.09%
CTQa	86.708

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	27	90.00%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	4	22.22%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	9	42.86%	Moderate



Metrics Report

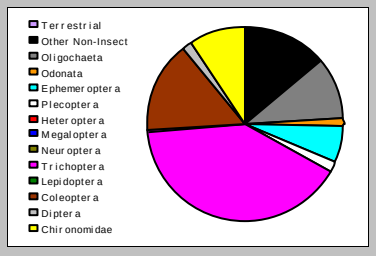
Project ID: CC18SBC
RAI No.: CC18SBC008
Sta. Name: Silver Bow Creek below Browns Gulch
Client ID: SS-11D
STORET ID
Coll. Date: 9/19/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 547
Sample Abundance: 13,789.92 3.97% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	9	76	13.89%
Oligochaeta	2	58	10.60%
Odonata	1	5	0.91%
Ephemeroptera	3	32	5.85%
Plecoptera	3	10	1.83%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	9	221	40.40%
Lepidoptera			
Coleoptera	2	84	15.36%
Diptera	4	9	1.65%
Chironomidae	11	52	9.51%

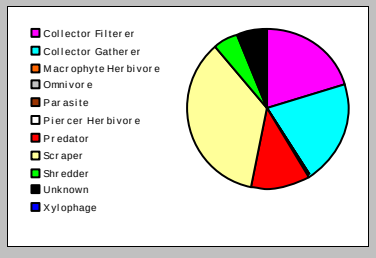


Dominant Taxa

Category	A	PRA
Helicopsyche	111	20.29%
Optioservus	77	14.08%
Brachycentrus occidentalis	47	8.59%
Naididae	45	8.23%
Nemata	31	5.67%
Baetis tricaudatus complex	28	5.12%
Microtendipes	20	3.66%
Acari	20	3.66%
Hydropsyche	19	3.47%
Nectopsyche	16	2.93%
Cheumatopsyche	13	2.38%
Tubificinae	12	2.19%
Micropsectra	11	2.01%
Thienemannimyia Gr.	8	1.46%
Physidae	8	1.46%

Functional Composition

Category	R	A	PRA
Predator	13	62	11.33%
Parasite			
Collector Gatherer	12	113	20.66%
Collector Filterer	7	112	20.48%
Macrophyte Herbivore			
Piercer Herbivore	1	1	0.18%
Xylophage			
Scraper	5	198	36.20%
Shredder	4	27	4.94%
Omnivore			
Unknown	2	34	6.22%

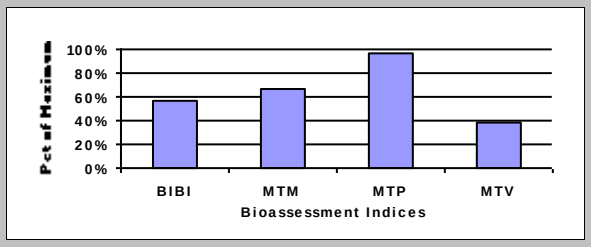


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	44
E Richness	3
P Richness	3
T Richness	9
EPT Richness	15
EPT Percent	48.08%
All Non-Insect Abundance	134
All Non-Insect Richness	11
All Non-Insect Percent	24.50%
Oligochaeta+Hirudinea Percent	11.52%
Baetidae/Ephemeroptera	0.969
Hydropsychidae/Trichoptera	0.145
Dominance	
Dominant Taxon Percent	20.29%
Dominant Taxa (2) Percent	34.37%
Dominant Taxa (3) Percent	42.96%
Dominant Taxa (10) Percent	75.69%
Diversity	
Shannon H (loge)	2.888
Shannon H (log2)	4.167
Margalef D	6.963
Simpson D	0.091
Evenness	0.763
Function	
Predator Richness	13
Predator Percent	11.33%
Filterer Richness	7
Filterer Percent	20.48%
Collector Percent	41.13%
Scraper+Shredder Percent	41.13%
Scraper/Filterer	1.768
Scraper/Scraper+Filterer	0.639
Habit	
Burrower Richness	4
Burrower Percent	1.46%
Swimmer Richness	2
Swimmer Percent	8.04%
Clinger Richness	14
Clinger Percent	57.95%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	4
Hemoglobin Bearer Percent	4.39%
Air Breather Richness	1
Air Breather Percent	0.18%
Voltinism	
Univoltine Richness	23
Semivoltine Richness	4
Multivoltine Percent	19.74%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	0.37%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.18%
Metals Tolerance Index	3.978
Pollution Sensitive Richness	0
Pollution Tolerant Percent	43.88%
Hilsenhoff Biotic Index	4.544
Intolerant Percent	14.81%
Supertolerant Percent	14.08%
CTQa	82.222

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	28	56.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	29	96.67%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	7	38.89%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	14	66.67%	Slight



Metrics Report

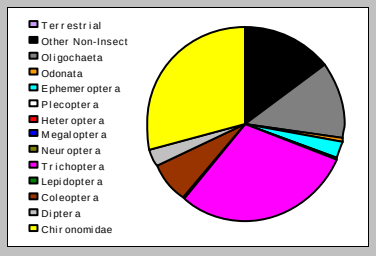
Project ID: CC18SBC
RAI No.: CC18SBC009
Sta. Name: Silver Bow Creek in Reach L
Client ID: SS-13
STORET ID
Coll. Date: 9/19/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 531
Sample Abundance: 1,770.00 30.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	6	80	15.07%
Oligochaeta	3	64	12.05%
Odonata	1	3	0.56%
Ephemeroptera	4	15	2.82%
Plecoptera	1	2	0.38%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	160	30.13%
Lepidoptera			
Coleoptera	2	34	6.40%
Diptera	2	18	3.39%
Chironomidae	5	155	29.19%

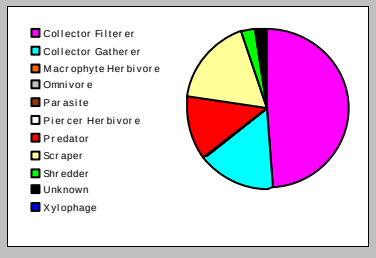


Dominant Taxa

Category	A	PRA
Microtendipes	138	25.99%
Brachycentrus occidentalis	77	14.50%
Helicopsyche	58	10.92%
Naididae	43	8.10%
Acari	41	7.72%
Optioservus	33	6.21%
Sphaeriidae	21	3.95%
Tubificinae	19	3.58%
Simulium	15	2.82%
Thienemannimyia Gr.	12	2.26%
Nemata	11	2.07%
Nectopsyche	8	1.51%
Baetis tricaudatus complex	8	1.51%
Hydropsyche	7	1.32%
Oecetis	6	1.13%

Functional Composition

Category	R	A	PRA
Predator	8	72	13.56%
Parasite			
Collector Gatherer	8	80	15.07%
Collector Filterer	6	260	48.96%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	3	93	17.51%
Shredder	4	14	2.64%
Omnivore			
Unknown	2	12	2.26%

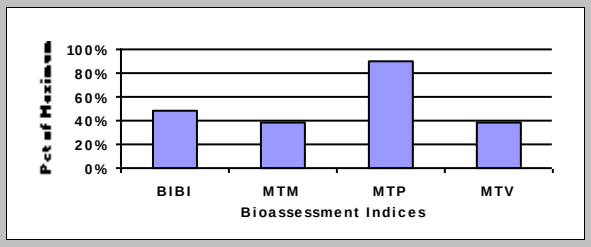


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	31
E Richness	4
P Richness	1
T Richness	7
EPT Richness	12
EPT Percent	33.33%
All Non-Insect Abundance	144
All Non-Insect Richness	9
All Non-Insect Percent	27.12%
Oligochaeta+Hirudinea Percent	13.18%
Baetidae/Ephemeroptera	0.600
Hydropsychidae/Trichoptera	0.056
Dominance	
Dominant Taxon Percent	25.99%
Dominant Taxa (2) Percent	40.49%
Dominant Taxa (3) Percent	51.41%
Dominant Taxa (10) Percent	86.06%
Diversity	
Shannon H (loge)	2.484
Shannon H (log2)	3.584
Margalef D	4.824
Simpson D	0.131
Evenness	0.723
Function	
Predator Richness	8
Predator Percent	13.56%
Filterer Richness	6
Filterer Percent	48.96%
Collector Percent	64.03%
Scraper+Shredder Percent	20.15%
Scraper/Filterer	0.358
Scraper/Scraper+Filterer	0.263
Habit	
Burrower Richness	2
Burrower Percent	1.13%
Swimmer Richness	2
Swimmer Percent	3.01%
Clinger Richness	12
Clinger Percent	64.41%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	26.74%
Air Breather Richness	1
Air Breather Percent	0.56%
Voltinism	
Univoltine Richness	16
Semivoltine Richness	4
Multivoltine Percent	38.61%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	1.51%
Sediment Sensitive Richness	0
Sediment Sensitive Percent	0.00%
Metals Tolerance Index	3.953
Pollution Sensitive Richness	0
Pollution Tolerant Percent	21.66%
Hilsenhoff Biotic Index	4.993
Intolerant Percent	16.57%
Supertolerant Percent	15.07%
CTQa	83.917

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	27	90.00%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	7	38.89%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	8	38.10%	Moderate



Metrics Report

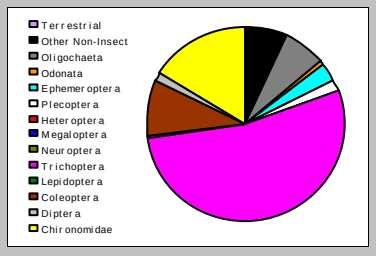
Project ID: CC18SBC
RAI No.: CC18SBC010
Sta. Name: Silver Bow Creek at Miles Crossing
Client ID: SS-14
STORET ID
Coll. Date: 9/18/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 523
Sample Abundance: 5,230.00 10.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	6	36	6.88%
Oligochaeta	2	38	7.27%
Odonata	2	3	0.57%
Ephemeroptera	3	18	3.44%
Plecoptera	1	8	1.53%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	8	277	52.96%
Lepidoptera			
Coleoptera	3	49	9.37%
Diptera	2	7	1.34%
Chironomidae	8	87	16.63%

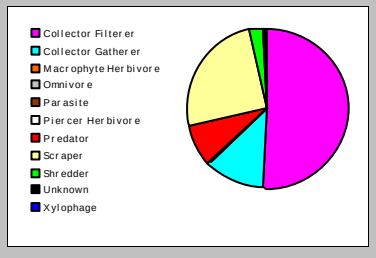


Dominant Taxa

Category	A	PRA
Brachycentrus occidentalis	154	29.45%
Microtendipes	74	14.15%
Helicopsyche	73	13.96%
Optioservus	47	8.99%
Naididae	22	4.21%
Baetis tricaudatus complex	16	3.06%
Tubificinae	15	2.87%
Hydropsyche	15	2.87%
Sphaeriidae	14	2.68%
Oecetis	11	2.10%
Acari	11	2.10%
Lepidostoma	10	1.91%
Skwala	8	1.53%
Simulium	6	1.15%
Thienemannimyia Gr.	5	0.96%

Functional Composition

Category	R	A	PRA
Predator	10	43	8.22%
Parasite			
Collector Gatherer	11	64	12.24%
Collector Filterer	6	265	50.67%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	133	25.43%
Shredder	2	13	2.49%
Omnivore			
Unknown	2	5	0.96%

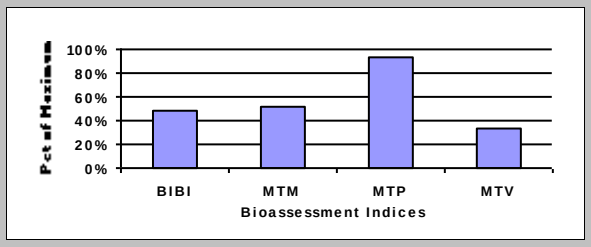


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	35
E Richness	3
P Richness	1
T Richness	8
EPT Richness	12
EPT Percent	57.94%
All Non-Insect Abundance	74
All Non-Insect Richness	8
All Non-Insect Percent	14.15%
Oligochaeta+Hirudinea Percent	7.65%
Baetidae/Ephemeroptera	0.944
Hydropsychidae/Trichoptera	0.061
Dominance	
Dominant Taxon Percent	29.45%
Dominant Taxa (2) Percent	43.59%
Dominant Taxa (3) Percent	57.55%
Dominant Taxa (10) Percent	84.32%
Diversity	
Shannon H (loge)	2.380
Shannon H (log2)	3.434
Margalef D	5.528
Simpson D	0.164
Evenness	0.670
Function	
Predator Richness	10
Predator Percent	8.22%
Filterer Richness	6
Filterer Percent	50.67%
Collector Percent	62.91%
Scraper+Shredder Percent	27.92%
Scraper/Filterer	0.502
Scraper/Scraper+Filterer	0.334
Habit	
Burrower Richness	1
Burrower Percent	0.38%
Swimmer Richness	2
Swimmer Percent	3.63%
Clinger Richness	12
Clinger Percent	76.67%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	3
Hemoglobin Bearer Percent	14.53%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	17
Semivoltine Richness	5
Multivoltine Percent	22.18%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	0.57%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	0.96%
Metals Tolerance Index	3.639
Pollution Sensitive Richness	0
Pollution Tolerant Percent	28.30%
Hilsenhoff Biotic Index	4.047
Intolerant Percent	34.42%
Supertolerant Percent	10.71%
CTQa	86.129

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	28	93.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	6	33.33%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	11	52.38%	Moderate



Metrics Report

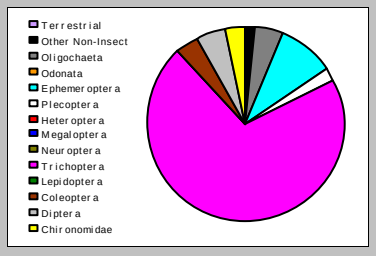
Project ID: CC18SBC
RAI No.: CC18SBC011
Sta. Name: Silver Bow Creek above German Gulch
Client ID: SS-15A-2
STORET ID
Coll. Date: 9/21/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 527
Sample Abundance: 7,905.00 6.67% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	2	10	1.90%
Oligochaeta	1	23	4.36%
Odonata			
Ephemeroptera	1	51	9.68%
Plecoptera	3	9	1.71%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	6	371	70.40%
Lepidoptera			
Coleoptera	2	20	3.80%
Diptera	2	26	4.93%
Chironomidae	9	17	3.23%

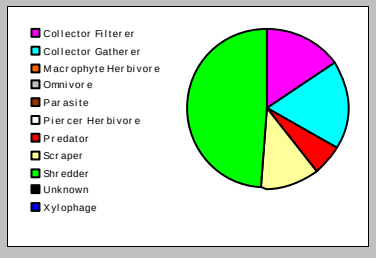


Dominant Taxa

Category	A	PRA
Lepidostoma	257	48.77%
Baetis tricaudatus complex	51	9.68%
Hydropsyche	36	6.83%
Glossosoma	32	6.07%
Brachycentrus occidentalis	31	5.88%
Naididae	23	4.36%
Optioservus	19	3.61%
Simulium	17	3.23%
Helicopsyche	10	1.90%
Atherix	9	1.71%
Acari	9	1.71%
Skwala	6	1.14%
Oecetis	5	0.95%
Eukiefferiella Claripennis Gr.	4	0.76%
Eukiefferiella Devonica Gr.	2	0.38%

Functional Composition

Category	R	A	PRA
Predator	6	31	5.88%
Parasite			
Collector Gatherer	11	91	17.27%
Collector Filterer	3	84	15.94%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	62	11.76%
Shredder	2	259	49.15%
Omnivore			
Unknown			

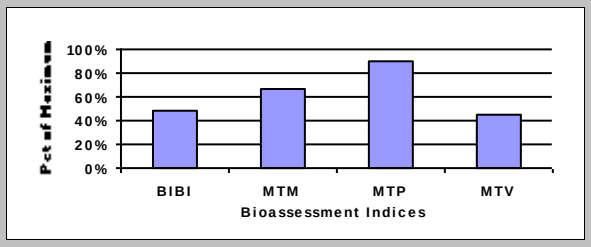


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	26
E Richness	1
P Richness	3
T Richness	6
EPT Richness	10
EPT Percent	81.78%
All Non-Insect Abundance	33
All Non-Insect Richness	3
All Non-Insect Percent	6.26%
Oligochaeta+Hirudinea Percent	4.36%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.097
Dominance	
Dominant Taxon Percent	48.77%
Dominant Taxa (2) Percent	58.44%
Dominant Taxa (3) Percent	65.28%
Dominant Taxa (10) Percent	92.03%
Diversity	
Shannon H (loge)	1.933
Shannon H (log2)	2.789
Margalef D	4.013
Simpson D	0.282
Evenness	0.593
Function	
Predator Richness	6
Predator Percent	5.88%
Filterer Richness	3
Filterer Percent	15.94%
Collector Percent	33.21%
Scraper+Shredder Percent	60.91%
Scraper/Filterer	0.738
Scraper/Scraper+Filterer	0.425
Habit	
Burrower Richness	0
Burrower Percent	0.00%
Swimmer Richness	1
Swimmer Percent	9.68%
Clinger Richness	11
Clinger Percent	30.36%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	0
Hemoglobin Bearer Percent	0.00%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	12
Semivoltine Richness	3
Multivoltine Percent	14.61%
Tolerance	
Sediment Tolerant Richness	0
Sediment Tolerant Percent	0.00%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	6.07%
Metals Tolerance Index	2.603
Pollution Sensitive Richness	0
Pollution Tolerant Percent	8.54%
Hilsenhoff Biotic Index	2.702
Intolerant Percent	62.62%
Supertolerant Percent	7.59%
CTQa	70.095

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	27	90.00%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	8	44.44%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	14	66.67%	Slight



Metrics Report

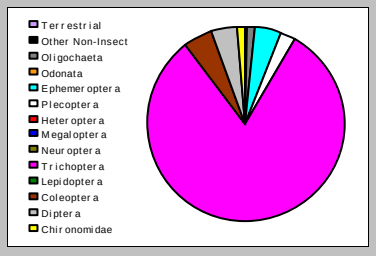
Project ID: CC18SBC
RAI No.: CC18SBC012
Sta. Name: Silver Bow Creek below German Gulch
Client ID: SS-15B
STORET ID
Coll. Date: 9/21/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 538
Sample Abundance: 5,380.00 10.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	2	3	0.56%
Oligochaeta	1	7	1.30%
Odonata			
Ephemeroptera	4	23	4.28%
Plecoptera	2	13	2.42%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	9	436	81.04%
Lepidoptera			
Coleoptera	4	28	5.20%
Diptera	6	21	3.90%
Chironomidae	5	7	1.30%

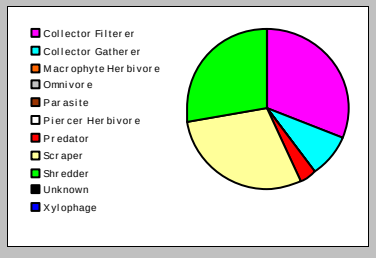


Dominant Taxa

Category	A	PRA
Hydropsyche	145	26.95%
Lepidostoma	138	25.65%
Glossosoma	129	23.98%
Optioservus	17	3.16%
Baetis tricaudatus complex	16	2.97%
Simulium	13	2.42%
Brachycentrus occidentalis	9	1.67%
Zapada cinctipes	8	1.49%
Zaitzevia	7	1.30%
Naididae	7	1.30%
Hesperoperla pacifica	5	0.93%
Cinygmula	5	0.93%
Atherix	4	0.74%
Arctopsyche	4	0.74%
Amiocentrus aspilus	4	0.74%

Functional Composition

Category	R	A	PRA
Predator	7	18	3.35%
Parasite			
Collector Gatherer	12	46	8.55%
Collector Filterer	4	168	31.23%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	6	157	29.18%
Shredder	4	149	27.70%
Omnivore			
Unknown			

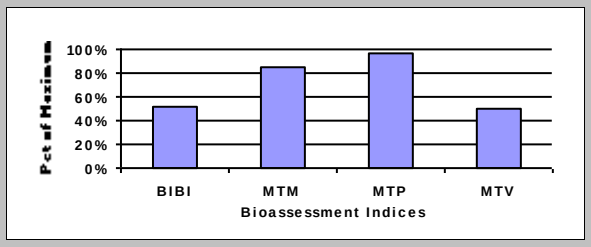


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	33
E Richness	4
P Richness	2
T Richness	9
EPT Richness	15
EPT Percent	87.73%
All Non-Insect Abundance	10
All Non-Insect Richness	3
All Non-Insect Percent	1.86%
Oligochaeta+Hirudinea Percent	1.30%
Baetidae/Ephemeroptera	0.696
Hydropsychidae/Trichoptera	0.342
Dominance	
Dominant Taxon Percent	26.95%
Dominant Taxa (2) Percent	52.60%
Dominant Taxa (3) Percent	76.58%
Dominant Taxa (10) Percent	90.89%
Diversity	
Shannon H (loge)	1.984
Shannon H (log2)	2.862
Margalef D	5.123
Simpson D	0.214
Evenness	0.567
Function	
Predator Richness	7
Predator Percent	3.35%
Filterer Richness	4
Filterer Percent	31.23%
Collector Percent	39.78%
Scraper+Shredder Percent	56.88%
Scraper/Filterer	0.935
Scraper/Scraper+Filterer	0.483
Habit	
Burrower Richness	2
Burrower Percent	0.37%
Swimmer Richness	1
Swimmer Percent	2.97%
Clinger Richness	20
Clinger Percent	67.10%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	0
Hemoglobin Bearer Percent	0.00%
Air Breather Richness	2
Air Breather Percent	0.37%
Voltinism	
Univoltine Richness	19
Semivoltine Richness	7
Multivoltine Percent	4.65%
Tolerance	
Sediment Tolerant Richness	1
Sediment Tolerant Percent	0.19%
Sediment Sensitive Richness	2
Sediment Sensitive Percent	24.72%
Metals Tolerance Index	2.966
Pollution Sensitive Richness	0
Pollution Tolerant Percent	5.76%
Hilsenhoff Biotic Index	2.558
Intolerant Percent	56.13%
Supertolerant Percent	2.23%
CTQa	61.222

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	26	52.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	29	96.67%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	9	50.00%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	18	85.71%	None



Metrics Report

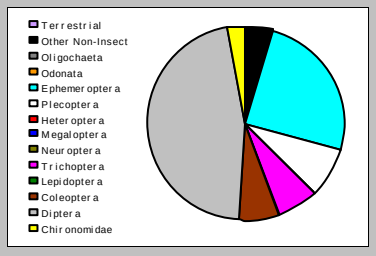
Project ID: CC18SBC
RAI No.: CC18SBC013
Sta. Name: German Gulch near confluence
Client ID: SS-15G
STORET ID
Coll. Date: 9/21/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 537
Sample Abundance: 4,027.50 13.33% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	4	24	4.47%
Oligochaeta	1	3	0.56%
Odonata			
Ephemeroptera	7	129	24.02%
Plecoptera	7	45	8.38%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	6	37	6.89%
Lepidoptera			
Coleoptera	3	36	6.70%
Diptera	5	250	46.55%
Chironomidae	7	13	2.42%

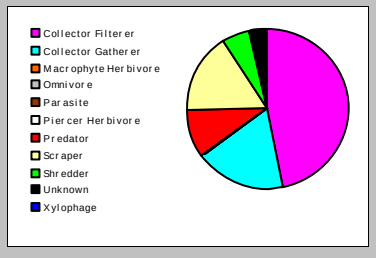


Dominant Taxa

Category	A	PRA
Simulium	240	44.69%
Cinygmula	58	10.80%
Baetis tricaudatus complex	48	8.94%
Heterlimnius corpulentus	22	4.10%
Hesperoperla pacifica	21	3.91%
Nemata	20	3.72%
Zapada cinctipes	13	2.42%
Arctopsyche	13	2.42%
Rhithrogena	12	2.23%
Optioservus	11	2.05%
Lepidostoma	9	1.68%
Dolophilodes	7	1.30%
Pericoma	6	1.12%
Doroneuria	5	0.93%
Caudatella	5	0.93%

Functional Composition

Category	R	A	PRA
Predator	12	51	9.50%
Parasite			
Collector Gatherer	11	97	18.06%
Collector Filterer	4	250	46.55%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	6	90	16.76%
Shredder	6	29	5.40%
Omnivore			
Unknown	1	20	3.72%

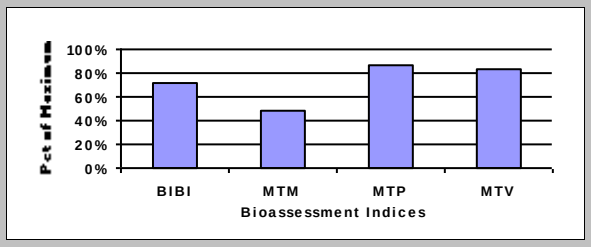


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	40
E Richness	7
P Richness	7
T Richness	6
EPT Richness	20
EPT Percent	39.29%
All Non-Insect Abundance	27
All Non-Insect Richness	5
All Non-Insect Percent	5.03%
Oligochaeta+Hirudinea Percent	0.56%
Baetidae/Ephemeroptera	0.372
Hydropsychidae/Trichoptera	0.351
Dominance	
Dominant Taxon Percent	44.69%
Dominant Taxa (2) Percent	55.49%
Dominant Taxa (3) Percent	64.43%
Dominant Taxa (10) Percent	85.29%
Diversity	
Shannon H (loge)	2.320
Shannon H (log2)	3.348
Margalef D	6.260
Simpson D	0.213
Evenness	0.629
Function	
Predator Richness	12
Predator Percent	9.50%
Filterer Richness	4
Filterer Percent	46.55%
Collector Percent	64.62%
Scraper+Shredder Percent	22.16%
Scraper/Filterer	0.360
Scraper/Scraper+Filterer	0.265
Habit	
Burrower Richness	5
Burrower Percent	2.42%
Swimmer Richness	1
Swimmer Percent	8.94%
Clinger Richness	21
Clinger Percent	79.14%
Characteristics	
Cold Stenotherm Richness	6
Cold Stenotherm Percent	4.66%
Hemoglobin Bearer Richness	0
Hemoglobin Bearer Percent	0.00%
Air Breather Richness	3
Air Breather Percent	1.68%
Voltinism	
Univoltine Richness	21
Semivoltine Richness	7
Multivoltine Percent	11.92%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	0.56%
Sediment Sensitive Richness	4
Sediment Sensitive Percent	5.03%
Metals Tolerance Index	3.811
Pollution Sensitive Richness	7
Pollution Tolerant Percent	2.61%
Hilsenhoff Biotic Index	4.051
Intolerant Percent	28.31%
Supertolerant Percent	0.93%
CTQa	56.286

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	36	72.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	26	86.67%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	15	83.33%	None
MTM	Montana DEQ Mountains (Bukantis 1998)	10	47.62%	Moderate



Metrics Report

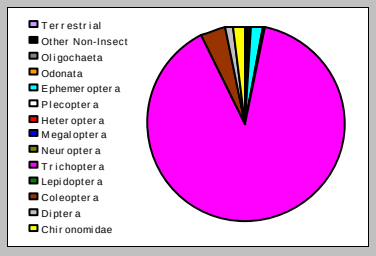
Project ID: CC18SBC
RAI No.: CC18SBC014
Sta. Name: Silver Bow Creek in Reach P near Fairmont
Client ID: SS-16B
STORET ID
Coll. Date: 9/19/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 524
Sample Abundance: 7,860.00 6.67% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	3	5	0.95%
Oligochaeta	1	3	0.57%
Odonata			
Ephemeroptera	2	8	1.53%
Plecoptera	1	1	0.19%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	9	469	89.50%
Lepidoptera			
Coleoptera	2	24	4.58%
Diptera	2	4	0.76%
Chironomidae	3	10	1.91%

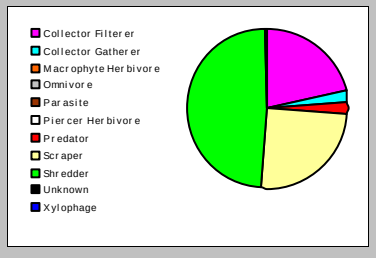


Dominant Taxa

Category	A	PRA
Lepidostoma	257	49.05%
Brachycentrus occidentalis	63	12.02%
Helicopsyche	54	10.31%
Glossosoma	39	7.44%
Hydropsyche	28	5.34%
Optioservus	23	4.39%
Cheumatopsyche	16	3.05%
Oecetis	7	1.34%
Drunella	5	0.95%
Microtendipes	4	0.76%
Physidae	3	0.57%
Naididae	3	0.57%
Glossosomatidae	3	0.57%
Eukiefferiella Claripennis Gr.	3	0.57%
Baetis tricaudatus complex	3	0.57%

Functional Composition

Category	R	A	PRA
Predator	5	12	2.29%
Parasite			
Collector Gatherer	5	13	2.48%
Collector Filterer	5	113	21.56%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	6	128	24.43%
Shredder	1	257	49.05%
Omnivore			
Unknown	1	1	0.19%

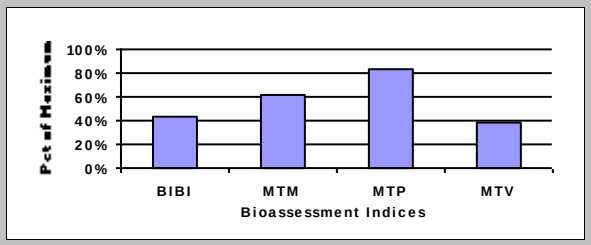


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	23
E Richness	2
P Richness	1
T Richness	9
EPT Richness	12
EPT Percent	91.22%
All Non-Insect Abundance	8
All Non-Insect Richness	4
All Non-Insect Percent	1.53%
Oligochaeta+Hirudinea Percent	0.57%
Baetidae/Ephemeroptera	0.375
Hydropsychidae/Trichoptera	0.094
Dominance	
Dominant Taxon Percent	49.05%
Dominant Taxa (2) Percent	61.07%
Dominant Taxa (3) Percent	71.37%
Dominant Taxa (10) Percent	94.66%
Diversity	
Shannon H (loge)	1.776
Shannon H (log2)	2.562
Margalef D	3.536
Simpson D	0.297
Evenness	0.566
Function	
Predator Richness	5
Predator Percent	2.29%
Filterer Richness	5
Filterer Percent	21.56%
Collector Percent	24.05%
Scraper+Shredder Percent	73.47%
Scraper/Filterer	1.133
Scraper/Scraper+Filterer	0.531
Habit	
Burrower Richness	1
Burrower Percent	0.38%
Swimmer Richness	1
Swimmer Percent	0.57%
Clinger Richness	14
Clinger Percent	47.33%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	0.76%
Air Breather Richness	0
Air Breather Percent	0.00%
Voltinism	
Univoltine Richness	13
Semivoltine Richness	3
Multivoltine Percent	2.67%
Tolerance	
Sediment Tolerant Richness	0
Sediment Tolerant Percent	0.00%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	7.44%
Metals Tolerance Index	2.263
Pollution Sensitive Richness	0
Pollution Tolerant Percent	19.85%
Hilsenhoff Biotic Index	2.109
Intolerant Percent	70.80%
Supertolerant Percent	3.24%
CTQa	76.750

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	22	44.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	25	83.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	7	38.89%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	13	61.90%	Slight



Metrics Report

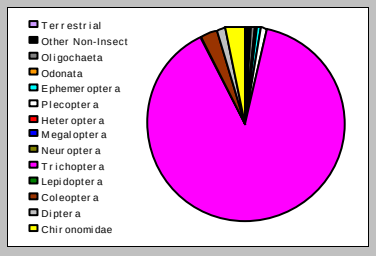
Project ID: CC18SBC
RAI No.: CC18SBC015
Sta. Name: Silver Bow Creek below Stewart Street at Opportunity
Client ID: SS-17D
STORET ID
Coll. Date: 9/20/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 526
Sample Abundance: 5,260.00 10.00% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	4	7	1.33%
Oligochaeta	2	3	0.57%
Odonata	1	1	0.19%
Ephemeroptera	1	2	0.38%
Plecoptera	2	8	1.52%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	465	88.40%
Lepidoptera			
Coleoptera	1	16	3.04%
Diptera	3	9	1.71%
Chironomidae	5	15	2.85%

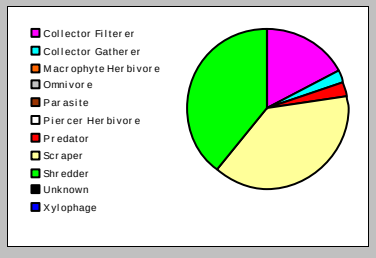


Dominant Taxa

Category	A	PRA
Lepidostoma	206	39.16%
Glossosoma	169	32.13%
Brachycentrus occidentalis	42	7.98%
Hydropsyche	20	3.80%
Optioservus	16	3.04%
Cheumatopsyche	15	2.85%
Helicopsyche	9	1.71%
Microtendipes	8	1.52%
Skwala	7	1.33%
Simulium	7	1.33%
Acari	4	0.76%
Pagastia	3	0.57%
Naididae	2	0.38%
Eukiefferiella Claripennis Gr.	2	0.38%
Baetis tricaudatus complex	2	0.38%

Functional Composition

Category	R	A	PRA
Predator	7	17	3.23%
Parasite			
Collector Gatherer	7	12	2.28%
Collector Filterer	6	93	17.68%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	4	197	37.45%
Shredder	2	207	39.35%
Omnivore			
Unknown			

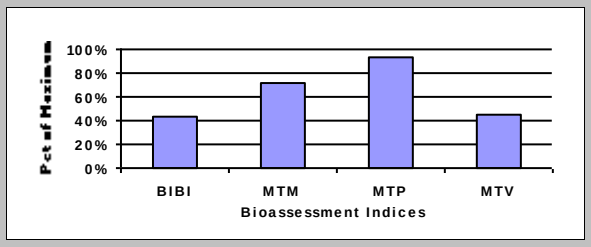


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	26
E Richness	1
P Richness	2
T Richness	7
EPT Richness	10
EPT Percent	90.30%
All Non-Insect Abundance	10
All Non-Insect Richness	6
All Non-Insect Percent	1.90%
Oligochaeta+Hirudinea Percent	0.57%
Baetidae/Ephemeroptera	1.000
Hydropsychidae/Trichoptera	0.075
Dominance	
Dominant Taxon Percent	39.16%
Dominant Taxa (2) Percent	71.29%
Dominant Taxa (3) Percent	79.28%
Dominant Taxa (10) Percent	94.87%
Diversity	
Shannon H (loge)	1.725
Shannon H (log2)	2.488
Margalef D	4.010
Simpson D	0.282
Evenness	0.529
Function	
Predator Richness	7
Predator Percent	3.23%
Filterer Richness	6
Filterer Percent	17.68%
Collector Percent	19.96%
Scraper+Shredder Percent	76.81%
Scraper/Filterer	2.118
Scraper/Scraper+Filterer	0.679
Habit	
Burrower Richness	3
Burrower Percent	0.57%
Swimmer Richness	1
Swimmer Percent	0.38%
Clinger Richness	11
Clinger Percent	56.65%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	1
Hemoglobin Bearer Percent	1.52%
Air Breather Richness	2
Air Breather Percent	0.38%
Voltinism	
Univoltine Richness	15
Semivoltine Richness	3
Multivoltine Percent	3.99%
Tolerance	
Sediment Tolerant Richness	2
Sediment Tolerant Percent	0.38%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	32.13%
Metals Tolerance Index	2.183
Pollution Sensitive Richness	0
Pollution Tolerant Percent	8.17%
Hilsenhoff Biotic Index	1.550
Intolerant Percent	80.42%
Supertolerant Percent	1.90%
CTQa	73.455

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	22	44.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	28	93.33%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	8	44.44%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	15	71.43%	Slight



Metrics Report

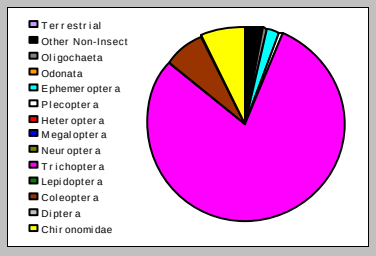
Project ID: CC18SBC
RAI No.: CC18SBC016
Sta. Name: Silver Bow Creek at Frontage Road
Client ID: SS-19
STORET ID
Coll. Date: 9/20/2018
Latitude: **Longitude:**

Abundance Measures

Sample Count: 525
Sample Abundance: 3,937.50 13.33% of sample used
Coll. Procedure:
Sample Notes:

Taxonomic Composition

Category	R	A	PRA
Terrestrial			
Other Non-Insect	4	14	2.67%
Oligochaeta	2	6	1.14%
Odonata			
Ephemeroptera	3	10	1.90%
Plecoptera	2	4	0.76%
Heteroptera			
Megaloptera			
Neuroptera			
Trichoptera	7	417	79.43%
Lepidoptera			
Coleoptera	2	35	6.67%
Diptera	1	2	0.38%
Chironomidae	3	37	7.05%

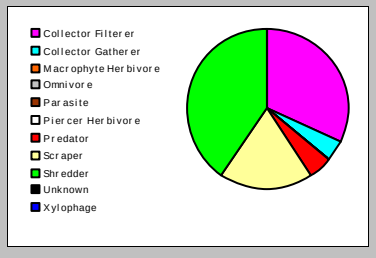


Dominant Taxa

Category	A	PRA
Lepidostoma	215	40.95%
Hydropsyche	71	13.52%
Brachycentrus occidentalis	62	11.81%
Helicopsyche	42	8.00%
Microtendipes	34	6.48%
Optioservus	32	6.10%
Glossosoma	19	3.62%
Acari	7	1.33%
Oecetis	6	1.14%
Tricorythodes	5	0.95%
Baetis tricaudatus complex	4	0.76%
Physidae	3	0.57%
Oreodytes	3	0.57%
Naididae	3	0.57%
Limnodrilus	3	0.57%

Functional Composition

Category	R	A	PRA
Predator	7	24	4.57%
Parasite			
Collector Gatherer	8	22	4.19%
Collector Filterer	3	167	31.81%
Macrophyte Herbivore			
Piercer Herbivore			
Xylophage			
Scraper	5	97	18.48%
Shredder	1	215	40.95%
Omnivore			
Unknown			

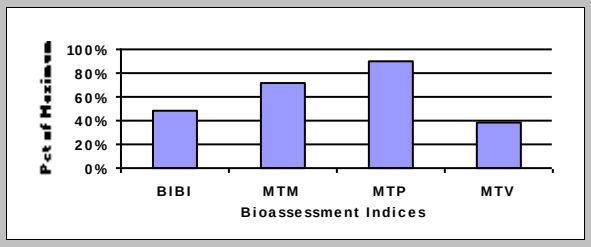


Metric Values and Scores

Metric	Value
Composition	
Taxa Richness	24
E Richness	3
P Richness	2
T Richness	7
EPT Richness	12
EPT Percent	82.10%
All Non-Insect Abundance	20
All Non-Insect Richness	6
All Non-Insect Percent	3.81%
Oligochaeta+Hirudinea Percent	1.14%
Baetidae/Ephemeroptera	0.400
Hydropsychidae/Trichoptera	0.170
Dominance	
Dominant Taxon Percent	40.95%
Dominant Taxa (2) Percent	54.48%
Dominant Taxa (3) Percent	66.29%
Dominant Taxa (10) Percent	93.90%
Diversity	
Shannon H (loge)	1.968
Shannon H (log2)	2.839
Margalef D	3.702
Simpson D	0.234
Evenness	0.619
Function	
Predator Richness	7
Predator Percent	4.57%
Filterer Richness	3
Filterer Percent	31.81%
Collector Percent	36.00%
Scraper+Shredder Percent	59.43%
Scraper/Filterer	0.581
Scraper/Scraper+Filterer	0.367
Habit	
Burrower Richness	1
Burrower Percent	0.38%
Swimmer Richness	2
Swimmer Percent	1.33%
Clinger Richness	11
Clinger Percent	52.00%
Characteristics	
Cold Stenotherm Richness	0
Cold Stenotherm Percent	0.00%
Hemoglobin Bearer Richness	2
Hemoglobin Bearer Percent	7.05%
Air Breather Richness	2
Air Breather Percent	0.95%
Voltinism	
Univoltine Richness	16
Semivoltine Richness	3
Multivoltine Percent	9.14%
Tolerance	
Sediment Tolerant Richness	3
Sediment Tolerant Percent	1.52%
Sediment Sensitive Richness	1
Sediment Sensitive Percent	3.62%
Metals Tolerance Index	2.705
Pollution Sensitive Richness	0
Pollution Tolerant Percent	16.95%
Hilsenhoff Biotic Index	2.771
Intolerant Percent	58.10%
Supertolerant Percent	3.43%
CTQa	69.100

Bioassessment Indices

BioIndex	Description	Score	Pct	Rating
BIBI	B-IBI (Karr et al.)	24	48.00%	
MTP	Montana DEQ Plains (Bukantis 1998)	27	90.00%	None
MTV	Montana Revised Valleys/Foothills (Bollman 1998)	7	38.89%	Moderate
MTM	Montana DEQ Mountains (Bukantis 1998)	15	71.43%	Slight



APPENDIX H

Periphyton Data: Non-diatoms

Table H-1. Relative abundance of non-diatom genera including all diatoms collectively, Silver Bow Creek, 2018. Determinations by Rhithron Associates Inc.

RAI Sample ID	Client ID	Sample Date	Taxon	Division	RA	RB
CC18SBCP001	SS-01	9/18/2018	Cladophora	Chlorophyta	A	1
CC18SBCP001	SS-01	9/18/2018	Diatoms	Bacillariophyta	VA	2
CC18SBCP001	SS-01	9/18/2018	Heteroleibleinia	Cyanophyta	VC	3
CC18SBCP001	SS-01	9/18/2018	Closterium	Chlorophyta	R	0
CC18SBCP001	SS-01	9/18/2018	Cosmarium	Chlorophyta	R	0
CC18SBCP001	SS-01	9/18/2018	Microspora	Chlorophyta	R	0
CC18SBCP001	SS-01	9/18/2018	Phormidium	Cyanophyta	R	0
CC18SBCP002	SS-05A	9/18/2018	Cladophora	Chlorophyta	A	1
CC18SBCP002	SS-05A	9/18/2018	Diatoms	Bacillariophyta	VA	2
CC18SBCP002	SS-05A	9/18/2018	Heteroleibleinia	Cyanophyta	VA	3
CC18SBCP002	SS-05A	9/18/2018	Closterium	Chlorophyta	R	0
CC18SBCP002	SS-05A	9/18/2018	Cosmarium	Chlorophyta	R	0
CC18SBCP002	SS-05A	9/18/2018	Microspora	Chlorophyta	R	0
CC18SBCP002	SS-05A	9/18/2018	Phormidium	Cyanophyta	R	0
CC18SBCP002	SS-05A	9/18/2018	Spirogyra	Chlorophyta	R	0
CC18SBCP002	SS-05A	9/18/2018	Undetermined Rhodophyte	Rhodophyta	R	0
CC18SBCP003	SS-06G	9/17/2018	Cladophora	Chlorophyta	A	1
CC18SBCP003	SS-06G	9/17/2018	Diatoms	Bacillariophyta	VA	2
CC18SBCP003	SS-06G	9/17/2018	Heteroleibleinia	Cyanophyta	VA	3
CC18SBCP003	SS-06G	9/17/2018	Merismopedia	Cyanophyta	R	0
CC18SBCP003	SS-06G	9/17/2018	Mougeotia	Chlorophyta	R	0
CC18SBCP003	SS-06G	9/17/2018	Undetermined Rhodophyte	Rhodophyta	R	0
CC18SBCP004	SS-07	9/17/2018	Cladophora	Chlorophyta	VC	1
CC18SBCP004	SS-07	9/17/2018	Vaucheria	Chrysophyta	A	2
CC18SBCP004	SS-07	9/17/2018	Diatoms	Bacillariophyta	A	3
CC18SBCP004	SS-07	9/17/2018	Microspora	Chlorophyta	VC	4
CC18SBCP004	SS-07	9/17/2018	Closterium	Chlorophyta	R	0
CC18SBCP004	SS-07	9/17/2018	Oedogonium	Chlorophyta	R	0
CC18SBCP004	SS-07	9/17/2018	Stigeoclonium	Chlorophyta	R	0
CC18SBCP005	SS-08	9/17/2018	Cladophora	Chlorophyta	A	1
CC18SBCP005	SS-08	9/17/2018	Diatoms	Bacillariophyta	VA	2
CC18SBCP005	SS-08	9/17/2018	Heteroleibleinia	Cyanophyta	VA	3
CC18SBCP005	SS-08	9/17/2018	Vaucheria	Chrysophyta	C	4
CC18SBCP005	SS-08	9/17/2018	Chamaesiphon	Cyanophyta	R	0
CC18SBCP005	SS-08	9/17/2018	Oedogonium	Chlorophyta	R	0
CC18SBCP005	SS-08	9/17/2018	Phormidium	Cyanophyta	R	0
CC18SBCP005	SS-08	9/17/2018	Stigeoclonium	Chlorophyta	R	0

RAI Sample ID	Client ID	Sample Date	Taxon	Division	RA	RB
CC18SBCP005	SS-08	9/17/2018	Undetermined Rhodophyte	Rhodophyta	R	0
CC18SBCP006	SS-10A	9/18/2018	Diatoms	Bacillariophyta	A	1
CC18SBCP006	SS-10A	9/18/2018	Cladophora	Chlorophyta	R	0
CC18SBCP006	SS-10A	9/18/2018	Heteroleibleinia	Cyanophyta	R	0
CC18SBCP006	SS-10A	9/18/2018	Nostoc	Cyanophyta	R	0
CC18SBCP007	SS-11C	9/19/2018	Cladophora	Chlorophyta	A	1
CC18SBCP007	SS-11C	9/19/2018	Vaucheria	Chrysophyta	A	2
CC18SBCP007	SS-11C	9/19/2018	Diatoms	Bacillariophyta	A	3
CC18SBCP007	SS-11C	9/19/2018	Heteroleibleinia	Cyanophyta	VA	4
CC18SBCP007	SS-11C	9/19/2018	Stigeoclonium	Chlorophyta	R	0
CC18SBCP008	SS-11D	9/19/2018	Cladophora	Chlorophyta	A	1
CC18SBCP008	SS-11D	9/19/2018	Diatoms	Bacillariophyta	A	2
CC18SBCP008	SS-11D	9/19/2018	Heteroleibleinia	Cyanophyta	VA	3
CC18SBCP008	SS-11D	9/19/2018	Xenococcus	Cyanophyta	VA	4
CC18SBCP008	SS-11D	9/19/2018	Chamaesiphon	Cyanophyta	R	0
CC18SBCP009	SS-13	9/19/2018	Cladophora	Chlorophyta	A	1
CC18SBCP009	SS-13	9/19/2018	Diatoms	Bacillariophyta	VA	2
CC18SBCP009	SS-13	9/19/2018	Heteroleibleinia	Cyanophyta	VA	3
CC18SBCP009	SS-13	9/19/2018	Xenococcus	Cyanophyta	VA	4
CC18SBCP009	SS-13	9/19/2018	Chamaesiphon	Cyanophyta	R	0
CC18SBCP009	SS-13	9/19/2018	Stigeoclonium	Chlorophyta	R	0
CC18SBCP010	SS-14	9/18/2018	Cladophora	Chlorophyta	VC	1
CC18SBCP010	SS-14	9/18/2018	Diatoms	Bacillariophyta	A	2
CC18SBCP010	SS-14	9/18/2018	Heteroleibleinia	Cyanophyta	VA	3
CC18SBCP010	SS-14	9/18/2018	Homoeothrix	Cyanophyta	R	0
CC18SBCP011	SS-15A-2	9/21/2018	Vaucheria	Chrysophyta	A	1
CC18SBCP011	SS-15A-2	9/21/2018	Cladophora	Chlorophyta	A	2
CC18SBCP011	SS-15A-2	9/21/2018	Ulva	Chlorophyta	A	3
CC18SBCP011	SS-15A-2	9/21/2018	Diatoms	Bacillariophyta	VA	4
CC18SBCP011	SS-15A-2	9/21/2018	Heteroleibleinia	Cyanophyta	VA	5
CC18SBCP011	SS-15A-2	9/21/2018	Oedogonium	Chlorophyta	R	0
CC18SBCP011	SS-15A-2	9/21/2018	Phormidium	Cyanophyta	R	0
CC18SBCP011	SS-15A-2	9/21/2018	Stigeoclonium	Chlorophyta	R	0
CC18SBCP012	SS-15B	9/21/2018	Oedogonium	Chlorophyta	A	1
CC18SBCP012	SS-15B	9/21/2018	Cladophora	Chlorophyta	A	2
CC18SBCP012	SS-15B	9/21/2018	Diatoms	Bacillariophyta	A	3
CC18SBCP012	SS-15B	9/21/2018	Heteroleibleinia	Cyanophyta	VA	4
CC18SBCP013	SS-15G	9/21/2018	Nostoc	Cyanophyta	VA	1
CC18SBCP013	SS-15G	9/21/2018	Ulva	Chlorophyta	A	2

RAI Sample ID	Client ID	Sample Date	Taxon	Division	RA	RB
CC18SBCP013	SS-15G	9/21/2018	Cladophora	Chlorophyta	A	3
CC18SBCP013	SS-15G	9/21/2018	Diatoms	Bacillariophyta	VA	4
CC18SBCP013	SS-15G	9/21/2018	Heteroleibleinia	Cyanophyta	VA	5
CC18SBCP013	SS-15G	9/21/2018	Calothrix	Cyanophyta	R	0
CC18SBCP013	SS-15G	9/21/2018	Undetermined Rhodophyte	Rhodophyta	R	0
CC18SBCP014	SS-16B	9/19/2018	Leptolyngbya	Cyanophyta	VA	1
CC18SBCP014	SS-16B	9/19/2018	Ulva	Chlorophyta	A	2
CC18SBCP014	SS-16B	9/19/2018	Diatoms	Bacillariophyta	VA	3
CC18SBCP014	SS-16B	9/19/2018	Homoeothrix	Cyanophyta	R	0
CC18SBCP014	SS-16B	9/19/2018	Phormidium	Cyanophyta	R	0
CC18SBCP015	SS-17D	9/20/2018	Diatoms	Bacillariophyta	A	1
CC18SBCP015	SS-17D	9/20/2018	Stigeoclonium	Chlorophyta	VC	2
CC18SBCP016	SS-19	9/20/2018	Ulva	Chlorophyta	VA	1
CC18SBCP016	SS-19	9/20/2018	Diatoms	Bacillariophyta	VA	2
CC18SBCP016	SS-19	9/20/2018	Stigeoclonium	Chlorophyta	VA	3
CC18SBCP016	SS-19	9/20/2018	Homoeothrix	Cyanophyta	VC	4
CC18SBCP016	SS-19	9/20/2018	Phormidium	Cyanophyta	R	0

APPENDIX I

Periphyton Data: Non-diatoms

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP001

RAI No.: CC18SBCP001 Sta. Name: Blacktail Creek at Father Sheehan Park
Client ID: SS-01
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium exiguum	9	1.12%		
Achnanthidium minutissimum	15	1.87%		
Adlafia minuscula v. muralis	2	0.25%		
Amphora pediculus	28	3.50%		
Caloneis sp.	4	0.50%		girdle
Cocconeis placentula sensu lato	18	2.25%		
Cyclotella meneghiniana	14	1.75%		
Discostella pseudostelligera	1	0.12%		
Encyonema leibleinii	2	0.25%		
Encyonema minutum	8	1.00%		mostly girdle
Encyonema silesiacum	6	0.75%		
Fragilaria vaucheriae	7	0.87%		
Frustulia vulgaris	3	0.37%		
Geissleria acceptata	22	2.75%		
Geissleria decussis	8	1.00%		
Gomphonema exilissimum	2	0.25%		uncertain ID, acute end morph Gomphonema parvulum
Gomphonema minutum	6	0.75%		girdle
Gomphonema parvulum	7	0.87%		
Hippodonta sp.	2	0.25%		girdle
Karayevia laterostrata	8	1.00%		
Lemnicola hungarica	2	0.25%		
Luticola sp.	2	0.25%		obscured valve
Mayamaea agrestis	3	0.37%		
Mayamaea permitis	33	4.12%		
Melosira varians	47	5.87%		
Navicula antonii	2	0.25%		
Navicula capitatoradiata	2	0.25%		
Navicula cryptocephala	10	1.25%		
Navicula cryptotenella	2	0.25%		
Navicula genovefae	5	0.62%		
Navicula gregaria	4	0.50%		
Navicula lanceolata	7	0.87%		
Navicula reichardtiana	28	3.50%		
Navicula trivialis	5	0.62%		
Nitzschia acicularis	4	0.50%		
Nitzschia adamata	1	0.12%		damaged
Nitzschia archibaldii	2	0.25%		
Nitzschia dissipata	21	2.62%		
Nitzschia dissipata v. media	2	0.25%		
Nitzschia palea	1	0.12%		
Nitzschia palea v. debilis	64	7.99%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP001

RAI No.: CC18SBCP001 Sta. Name: Blacktail Creek at Father Sheehan Park
Client ID: SS-01
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Nitzschia paleacea	15	1.87%		
Nitzschia sociabilis	8	1.00%		
Nitzschia soratensis	40	4.99%		likely reported as Nitzschia inconspicua in previous surveys
Placoneis elginensis	2	0.25%		
Planothidium dubium	15	1.87%		
Planothidium frequentissimum	59	7.37%		
Planothidium lanceolatum	33	4.12%		
Psammothidium lauenburgianum	4	0.50%		
Reimeria sinuata	2	0.25%		
Rhoicosphenia sp.	19	2.37%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	45	5.62%		
Sellaphora auldreekie	4	0.50%		likely previously reported as Sellaphora pupula
Sellaphora japonica	2	0.25%		
Sellaphora nigri	4	0.50%		
Sellaphora seminulum	3	0.37%		
Staurosira construens v. binodis	71	8.86%		
Staurosira construens v. venter	45	5.62%		girdle
Staurosirella pinnata	7	0.87%		girdle
Surirella minuta	4	0.50%		

Sample Count 801

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP002

RAI No.: CC18SBCP002 Sta. Name: Silver Bow Creek above Butte Reduction Works
Client ID: SS-05A
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	9	1.12%		
Adlafia minuscula v. muralis	2	0.25%		
Amphora pediculus	14	1.75%		
Caloneis sp.	2	0.25%		girdle
Cocconeis pediculus	7	0.87%		
Cocconeis placentula sensu lato	48	5.99%		
Cyclotella meneghiniana	16	2.00%		
Diatoma moniliformis	2	0.25%		
Discostella pseudostelligera	5	0.62%		
Encyonema minutum	16	2.00%		
Encyonema reichardtii	5	0.62%		
Encyonema silesiacum	22	2.74%		
Fragilaria sp.	2	0.25%		Fragilaria cf rinoi
Fragilaria vaucheriae	13	1.62%		
Fragilariforma atomus	2	0.25%		
Geissleria acceptata	7	0.87%		
Geissleria decussis	8	1.00%		
Gomphonema minutum	6	0.75%		mostly girdle
Gomphonema parvulum	8	1.00%		
Karayevia laterostrata	1	0.12%		
Mayamaea agrestis	16	2.00%		
Mayamaea permitis	40	4.99%		
Melosira varians	41	5.11%		
Navicula cryptocephala	1	0.12%		
Navicula cryptotenella	15	1.87%		
Navicula genovefae	2	0.25%		ously reported as Prestauroneis protractoides or Parlibellus pr
Navicula lanceolata	4	0.50%		
Navicula reichardtiana	8	1.00%		
Navicula trivialis	1	0.12%		
Nitzschia acicularis	2	0.25%		
Nitzschia amphibia	1	0.12%		
Nitzschia dissipata	70	8.73%		
Nitzschia dissipata v. media	2	0.25%		
Nitzschia fonticola	14	1.75%		
Nitzschia linearis	4	0.50%		
Nitzschia palea	5	0.62%		
Nitzschia palea v. debilis	43	5.36%		
Nitzschia paleacea	9	1.12%		
Nitzschia sociabilis	3	0.37%		
Nitzschia soratensis	57	7.11%		
Placoneis ignorata	2	0.25%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP002

RAI No.: CC18SBCP002 Sta. Name: Silver Bow Creek above Butte Reduction Works
Client ID: SS-05A
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Planothidium dubium	14	1.75%		
Planothidium frequentissimum	38	4.74%		
Planothidium lanceolatum	27	3.37%		
Psammothidium lauenburgianum	6	0.75%		
Pseudostaurosira parasitica	2	0.25%		
Reimeria sinuata	9	1.12%		
Rhoicosphenia sp.	23	2.87%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	75	9.35%		
Sellaphora auldreekie	4	0.50%		
Sellaphora nigri	4	0.50%		
Sellaphora saugerresii	1	0.12%		
Sellaphora seminulum	3	0.37%		
Staurosira construens v. binodis	17	2.12%		
Staurosira construens v. venter	36	4.49%		
Staurosirella leptostauron v. dubia	2	0.25%		small morph
Staurosirella pinnata	4	0.50%		
Surirella angusta	2	0.25%		girdle
Sample Count	802			

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP003

RAI No.: CC18SBCP003 Sta. Name: Silver Bow Creek above WWTP
Client ID: SS-06G
Date Coll.: 9/17/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	13	1.63%		
Amphora pediculus	16	2.00%		
Caloneis sp.	3	0.38%		girdle
Cocconeis pediculus	2	0.25%		
Cocconeis placentula sensu lato	95	11.88%		
Craticula accomoda	2	0.25%		
Craticula molestiformis	2	0.25%		
Cyclostephanos invisitatus	1	0.13%		
Cyclotella meneghiniana	8	1.00%		
Discostella pseudostelligera	1	0.13%		
Encyonema minutum	7	0.88%		
Encyonema reichardtii	2	0.25%		
Encyonema silesiacum	11	1.38%		
Encyonopsis sp.	2	0.25%		girdle
Fistulifera saprophila	6	0.75%		
Fragilaria mesolepta	1	0.13%		
Fragilaria vaucheriae	12	1.50%		girdle
Frustulia vulgaris	2	0.25%		
Geissleria acceptata	17	2.13%		
Geissleria decussis	3	0.38%		
Gomphonema sp.	2	0.25%		girdle, wedge 50um pore rows
Gomphonema minutum	2	0.25%		
Gomphonema parvulum	12	1.50%		
Halamphora oligotraphenta	17	2.13%		
Mayamaea agrestis	4	0.50%		
Mayamaea permitis	49	6.13%		
Melosira varians	16	2.00%		
Meridion circulare	1	0.13%		
Navicula cryptocephala	5	0.63%		
Navicula cryptotenella	23	2.88%		
Navicula gregaria	1	0.13%		
Navicula lanceolata	2	0.25%		
Navicula reichardtiana	16	2.00%		
Nitzschia acicularis	2	0.25%		
Nitzschia adamata	2	0.25%		
Nitzschia amphibia	1	0.13%		
Nitzschia dissipata	20	2.50%		
Nitzschia dissipata v. media	1	0.13%		
Nitzschia fonticola	6	0.75%		
Nitzschia heufleriana	2	0.25%		girdle
Nitzschia incognita	1	0.13%		broken valve

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP003

RAI No.: CC18SBCP003 Sta. Name: Silver Bow Creek above WWTP
Client ID: SS-06G
Date Coll.: 9/17/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Nitzschia linearis	6	0.75%		
Nitzschia palea	4	0.50%		
Nitzschia palea v. debilis	34	4.25%		
Nitzschia paleacea	14	1.75%		
Nitzschia soratensis	71	8.88%		
Nitzschia supralitorea	1	0.13%		
Planothidium dubium	2	0.25%		
Planothidium frequentissimum	49	6.13%		
Planothidium lanceolatum	46	5.75%		
Psammothidium lauenburgianum	3	0.38%		
Psammothidium scoticum	2	0.25%		
Reimeria sinuata	11	1.38%		
Rhoicosphenia sp.	32	4.00%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	64	8.00%		
Sellaphora auldreekie	4	0.50%		
Sellaphora nigri	2	0.25%		
Sellaphora seminulum	4	0.50%		
Staurosira construens v. binodis	15	1.88%		
Staurosira construens v. venter	29	3.63%		
Staurosirella leptostauron	13	1.63%		
Staurosirella pinnata	2	0.25%		
Surirella minuta	1	0.13%		

Sample Count 800

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP004

RAI No.: CC18SBCP004 Sta. Name: Silver Bow Creek below WWTP
Client ID: SS-07
Date Coll.: 9/17/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium exiguum	1	0.12%		
Achnanthidium minutissimum	14	1.74%		
Adlafia minuscula v. muralis	4	0.50%		
Amphora pediculus	8	1.00%		
Chamaepinnularia sp.	2	0.25%		obscured valve
Cocconeis placentula sensu lato	104	12.94%		
Craticula subminuscula	1	0.12%		
Cyclotella meneghiniana	10	1.24%		
Discostella pseudostelligera	2	0.25%		
Encyonema minutum	1	0.12%		
Encyonema silesiacum	19	2.36%		
Fistulifera saprophila	1	0.12%		
Fragilaria capucina	4	0.50%		
Fragilaria capucina v. gracilis	11	1.37%		
Fragilaria vaucheriae	3	0.37%		
Geissleria acceptata	14	1.74%		
Geissleria decussis	3	0.37%		
Gomphonema parvulum	10	1.24%		
Halamphora oligotraphenta	9	1.12%		
Mayamaea agrestis	5	0.62%		
Mayamaea atomus	1	0.12%		
Mayamaea permitis	61	7.59%		
Melosira varians	12	1.49%		
Navicula cryptotenella	11	1.37%		
Navicula gregaria	3	0.37%		
Navicula lanceolata	3	0.37%		
Navicula reichardtiana	3	0.37%		
Nitzschia amphibia	4	0.50%		
Nitzschia capitellata	3	0.37%		
Nitzschia dissipata	21	2.61%		
Nitzschia fonticola	10	1.24%		
Nitzschia hantzschiana	3	0.37%		
Nitzschia palea v. debilis	23	2.86%		
Nitzschia paleacea	15	1.87%		
Nitzschia soratensis	52	6.47%		
Planothidium dubium	7	0.87%		
Planothidium frequentissimum	56	6.97%		
Planothidium lanceolatum	45	5.60%		
Psammothidium lauenburgianum	1	0.12%		
Reimeria sinuata	17	2.11%		
Rhoicosphenia sp.	26	3.23%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP004

RAI No.: CC18SBCP004 Sta. Name: Silver Bow Creek below WWTP
Client ID: SS-07
Date Coll.: 9/17/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Sellaphora atomoides	146	18.16%		
Sellaphora auldreekie	1	0.12%		
Sellaphora nigri	11	1.37%		
Sellaphora saugerresii	6	0.75%		
Sellaphora seminulum	1	0.12%		
Staurosira construens v. binodis	8	1.00%		
Staurosira construens v. venter	6	0.75%		
Staurosirella leptostauron	13	1.62%		
Staurosirella pinnata	7	0.87%		
Surirella angusta	1	0.12%		
Surirella minuta	1	0.12%		
Sample Count	804			

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP005

RAI No.: CC18SBCP005 Sta. Name: Silver Bow Creek at Rocker
Client ID: SS-08
Date Coll.: 9/17/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium exiguum	3	0.37%		
Achnanthidium minutissimum	11	1.37%		
Amphora pediculus	5	0.62%		
Cocconeis pediculus	1	0.12%		
Cocconeis placentula sensu lato	60	7.48%		
Craticula buderi	1	0.12%		
Craticula molestiformis	1	0.12%		
Cyclotella meneghiniana	12	1.50%		
Cymbella hustedtii	1	0.12%		
Diatoma vulgaris	1	0.12%		
Discostella pseudostelligera	1	0.12%		
Encyonema minutum	4	0.50%		
Encyonema silesiacum	19	2.37%		
Encyonema triangulum	2	0.25%		
Fistulifera saprophila	4	0.50%		
Geissleria acceptata	7	0.87%		
Gomphonema parvulum	8	1.00%		
Gomphonema pumilum v. rigidum	3	0.37%		
Halamphora oligotraphenta	5	0.62%		
Hippodonta capitata	2	0.25%		
Mayamaea agrestis	1	0.12%		
Mayamaea permitis	43	5.36%		
Melosira varians	16	2.00%		
Meridion circulare	1	0.12%		
Navicula aitchelbee	5	0.62%		
Navicula cryptotenella	9	1.12%		
Navicula gregaria	3	0.37%		
Navicula lanceolata	4	0.50%		
Navicula reichardtiana	3	0.37%		
Nitzschia adamata	2	0.25%		
Nitzschia amphibia	7	0.87%		
Nitzschia dissipata	10	1.25%		
Nitzschia fonticola	14	1.75%		
Nitzschia hantzschiana	2	0.25%		referenced USGS PNSQA voucher images
Nitzschia linearis	3	0.37%		
Nitzschia palea	3	0.37%		
Nitzschia palea v. debilis	22	2.74%		
Nitzschia paleacea	15	1.87%		
Nitzschia soratensis	63	7.86%		
Nitzschia sublinearis	1	0.12%		
Nitzschia supralitorea	2	0.25%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP005

RAI No.: CC18SBCP005 Sta. Name: Silver Bow Creek at Rocker
Client ID: SS-08
Date Coll.: 9/17/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Pinnularia sp.	2	0.25%		girdle, 41um fascia
Planothidium dubium	1	0.12%		
Planothidium frequentissimum	27	3.37%		
Planothidium lanceolatum	27	3.37%		
Reimeria sinuata	14	1.75%		
Rhoicosphenia sp.	33	4.11%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	166	20.70%		
Sellaphora auldreekie	1	0.12%		
Sellaphora nigri	8	1.00%		
Sellaphora saugerresii	29	3.62%		
Sellaphora seminulum	2	0.25%		
Staurosira construens v. binodis	49	6.11%		
Staurosira construens v. venter	48	5.99%		
Staurosirella sp.	4	0.50%		girdle
Staurosirella leptostauron	10	1.25%		
Ulnaria ulna	1	0.12%		

Sample Count 802

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP006

RAI No.: CC18SBCP006 Sta. Name: Silver Bow Creek above Sand Creek
Client ID: SS-10A
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	10	1.25%		
Adlafia minuscula v. muralis	11	1.37%		
Amphora pediculus	1	0.12%		
Cocconeis placentula sensu lato	21	2.62%		
Cyclotella meneghiniana	2	0.25%		
Encyonema silesiacum	19	2.37%		
Fragilaria capucina	2	0.25%		
Geissleria acceptata	7	0.87%		
Gomphonema parvulum	3	0.37%		
Hantzschia amphioxys	1	0.12%		
Luticola mutica	1	0.12%		
Mayamaea agrestis	4	0.50%		
Mayamaea permitis	121	15.07%		
Navicula aitchelbee	11	1.37%		
Navicula cryptotenella	2	0.25%		
Navicula lanceolata	2	0.25%		
Navicula libonensis	2	0.25%		
Nitzschia acicularis	1	0.12%		
Nitzschia amphibia	2	0.25%		
Nitzschia communis	1	0.12%		
Nitzschia dissipata	2	0.25%		
Nitzschia fonticola	5	0.62%		
Nitzschia hantzschiana	2	0.25%		
Nitzschia palea	2	0.25%		
Nitzschia palea v. debilis	31	3.86%		
Nitzschia paleacea	9	1.12%		
Nitzschia soratensis	207	25.78%		
Planothidium dubium	2	0.25%		
Planothidium frequentissimum	26	3.24%		
Planothidium lanceolatum	47	5.85%		
Reimeria sinuata	5	0.62%		
Rhoicosphenia sp.	15	1.87%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	111	13.82%		
Sellaphora auldreekie	2	0.25%		
Sellaphora nigri	11	1.37%		
Sellaphora saugerresii	59	7.35%		
Sellaphora seminulum	6	0.75%		
Staurosira construens v. binodis	14	1.74%		
Staurosira construens v. venter	19	2.37%		
Staurosirella sp.	2	0.25%		girdle
Staurosirella leptostauron	1	0.12%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP006

RAI No.: CC18SBCP006
Sta. Name: Silver Bow Creek above Sand Creek
Client ID: SS-10A
Date Coll.: 9/18/2018
No Jars: 1
STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Ulnaria ulna	1	0.12%		
Sample Count 803				

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP007

RAI No.: CC18SBCP007 Sta. Name: Silver Bow Creek above Browns Gulch
Client ID: SS-11C
Date Coll.: 9/19/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	4	0.50%		
Adlafia minuscula v. muralis	36	4.48%		
Cocconeis placentula sensu lato	3	0.37%		
Cyclotella meneghiniana	3	0.37%		
Diatoma moniliformis	5	0.62%		
Encyonema silesiacum	5	0.62%		
Fistulifera saprophila	9	1.12%		
Fragilaria sp.	2	0.25%		girdle
Geissleria acceptata	5	0.62%		
Geissleria decussis	3	0.37%		
Gomphonema parvulum	2	0.25%		
Halamphora oligotraphenta	2	0.25%		
Luticola sp.	1	0.12%		Luticola acidoclinata?
Mayamaea agrestis	1	0.12%		
Mayamaea permitis	294	36.61%		
Melosira varians	2	0.25%		
Meridion circulare	2	0.25%		
Navicula aitchelbee	4	0.50%		
Navicula antonii	2	0.25%		
Navicula lanceolata	1	0.12%		
Navicula reichardtiana	4	0.50%		
Navicula trivialis	1	0.12%		damaged
Nitzschia adamata	6	0.75%		
Nitzschia amphibia	1	0.12%		
Nitzschia communis	2	0.25%		
Nitzschia dissipata	1	0.12%		
Nitzschia fonticola	10	1.25%		
Nitzschia hantzschiana	1	0.12%		
Nitzschia palea v. debilis	57	7.10%		
Nitzschia paleacea	8	1.00%		
Nitzschia soratensis	75	9.34%		
Planothidium frequentissimum	16	1.99%		
Planothidium lanceolatum	27	3.36%		
Psammothidium lauenburgianum	2	0.25%		
Pseudostaurosira parasitica v. subconstricta	1	0.12%		
Reimeria sinuata	2	0.25%		
Sellaphora atomoides	101	12.58%		
Sellaphora nigri	10	1.25%		
Sellaphora saugerresii	38	4.73%		
Sellaphora seminulum	2	0.25%		
Staurosira construens v. binodis	3	0.37%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP007

RAI No.: CC18SBCP007
Sta. Name: Silver Bow Creek above Browns Gulch
Client ID: SS-11C
Date Coll.: 9/19/2018
No Jars: 1
STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Staurosira construens v. venter	43	5.35%		
Staurosirella leptostauron	3	0.37%		
Staurosirella pinnata	2	0.25%		
Tabularia fasciculata	1	0.12%		
Sample Count	803			

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP008

RAI No.: CC18SBCP008 Sta. Name: Silver Bow Creek below Browns Gulch
Client ID: SS-11D
Date Coll.: 9/19/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	5	0.62%		
Adlafia minuscula v. muralis	3	0.37%		
Cocconeis placentula sensu lato	13	1.62%		
Craticula subminuscula	1	0.12%		
Cyclotella meneghiniana	5	0.62%		
Diatoma moniliformis	5	0.62%		
Encyonema minutum	2	0.25%		
Encyonema silesiacum	29	3.62%		
Fragilaria vaucheriae	2	0.25%		
Fragilariforma atomus	1	0.12%		
Fragilariforma nitzschioides	1	0.12%		
Geissleria acceptata	7	0.87%		
Geissleria decussis	2	0.25%		
Gomphoneis eriense v. variabilis	1	0.12%		
Gomphonema minutum	1	0.12%		damaged
Gomphonema parvulum	6	0.75%		
Halamphora oligotraphenta	2	0.25%		
Mayamaea agrestis	4	0.50%		
Mayamaea atomus	1	0.12%		
Mayamaea permitis	236	29.46%		
Melosira varians	1	0.12%		
Meridion circulare	1	0.12%		
Navicula aitchelbee	6	0.75%		
Navicula genovefae	1	0.12%		
Navicula lanceolata	1	0.12%		
Navicula reichardtiana	5	0.62%		
Nitzschia acicularis	8	1.00%		
Nitzschia adamata	4	0.50%		
Nitzschia dissipata	13	1.62%		
Nitzschia fonticola	2	0.25%		
Nitzschia hantzschiana	2	0.25%		
Nitzschia palea	12	1.50%		
Nitzschia palea v. debilis	66	8.24%		
Nitzschia paleacea	39	4.87%		
Nitzschia soratensis	84	10.49%		
Nitzschia tenuis	1	0.12%		damaged
Opephora sp.	1	0.12%		
Planothidium frequentissimum	35	4.37%		
Planothidium lanceolatum	45	5.62%		
Planothidium rostratum	1	0.12%		
Psammothidium sp.	1	0.12%		raphe valve

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP008

RAI No.: CC18SBCP008 Sta. Name: Silver Bow Creek below Browns Gulch
Client ID: SS-11D
Date Coll.: 9/19/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Psammothidium lauenburgianum	1	0.12%		
Rhoicosphenia sp.	6	0.75%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	76	9.49%		
Sellaphora nigri	3	0.37%		
Sellaphora saugerresii	25	3.12%		
Sellaphora seminulum	3	0.37%		
Staurosira construens v. binodis	4	0.50%		
Staurosira construens v. venter	14	1.75%		
Staurosirella leptostauron	6	0.75%		
Staurosirella ovata	3	0.37%		damaged and girdle
Surirella angusta	1	0.12%		
Surirella minuta	3	0.37%		

Sample Count 801

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP009

RAI No.: CC18SBCP009 Sta. Name: Silver Bow Creek in Reach L
Client ID: SS-13
Date Coll.: 9/19/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Adlafia minuscula v. muralis	2	0.25%		
Cocconeis placentula sensu lato	16	2.00%		
Craticula molestiformis	4	0.50%		
Craticula subminuscula	2	0.25%		
Encyonema minutum	3	0.37%		
Encyonema silesiacum	23	2.87%		
Fragilaria mesolepta	1	0.12%		
Fragilaria vaucheriae	7	0.87%		
Geissleria acceptata	4	0.50%		
Gomphonema parvulum	2	0.25%		
Halamphora oligotraphenta	3	0.37%		
Mayamaea agrestis	1	0.12%		
Mayamaea permitis	319	39.83%		
Navicula aitchelbee	24	3.00%		
Navicula reichardtiana	1	0.12%		
Nitzschia amphibia	2	0.25%		
Nitzschia dissipata	1	0.12%		
Nitzschia dissipata v. media	1	0.12%		damaged
Nitzschia fonticola	3	0.37%		
Nitzschia hantzschiana	1	0.12%		
Nitzschia palea v. debilis	75	9.36%		
Nitzschia paleacea	59	7.37%		
Nitzschia soratensis	97	12.11%		
Planothidium dubium	2	0.25%		
Planothidium frequentissimum	8	1.00%		
Planothidium lanceolatum	25	3.12%		
Psammothidium daonense	1	0.12%		
Reimeria sinuata	5	0.62%		
Rhoicosphenia sp.	1	0.12%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	65	8.11%		
Sellaphora auldreekie	1	0.12%		
Sellaphora nigri	2	0.25%		
Sellaphora saugerresii	17	2.12%		
Staurosira construens v. binodis	11	1.37%		
Staurosira construens v. venter	6	0.75%		
Staurosirella leptostauron	1	0.12%		
Staurosirella pinnata	2	0.25%		
Surirella brebissonii	2	0.25%		
Surirella minuta	1	0.12%		

Sample Count 801

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP010

RAI No.: CC18SBCP010 Sta. Name: Silver Bow Creek at Miles Crossing
Client ID: SS-14
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	11	1.37%		
Adlafia minuscula v. muralis	3	0.37%		
Amphora pediculus	3	0.37%		
Aulacoseira canadensis	1	0.12%		
Cocconeis placentula sensu lato	15	1.87%		
Cocconeis placentula v. pseudolineata	1	0.12%		
Craticula molestiformis	3	0.37%		
Craticula subminuscula	1	0.12%		
Cyclotella meneghiniana	4	0.50%		
Discostella pseudostelligera	1	0.12%		
Encyonema minutum	6	0.75%		
Encyonema silesiacum	9	1.12%		
Fistulifera saprophila	4	0.50%		
Fragilaria capucina	1	0.12%		
Fragilaria vaucheriae	3	0.37%		
Geissleria acceptata	8	1.00%		
Gomphonema minutum	1	0.12%		damaged
Gomphonema parvulum	2	0.25%		
Mayamaea atomus	1	0.12%		
Mayamaea permitis	240	29.96%		
Melosira varians	1	0.12%		
Navicula aitchelbee	18	2.25%		
Navicula capitatoradiata	2	0.25%		
Navicula reichardtiana	1	0.12%		
Nitzschia acicularis	2	0.25%		
Nitzschia amphibia	2	0.25%		
Nitzschia dissipata	5	0.62%		
Nitzschia fonticola	8	1.00%		
Nitzschia hantzschiana	1	0.12%		
Nitzschia linearis	3	0.37%		
Nitzschia palea v. debilis	57	7.12%		
Nitzschia paleacea	26	3.25%		
Nitzschia soratensis	115	14.36%		
Nitzschia subtilis	2	0.25%		girdle
Planothidium frequentissimum	32	4.00%		
Planothidium lanceolatum	44	5.49%		
Reimeria sinuata	27	3.37%		
Rhoicosphenia sp.	3	0.37%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora sp.	1	0.12%		damaged
Sellaphora atomoides	78	9.74%		
Sellaphora nigri	3	0.37%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP010

RAI No.: CC18SBCP010 Sta. Name: Silver Bow Creek at Miles Crossing
Client ID: SS-14
Date Coll.: 9/18/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Sellaphora saugerresii	26	3.25%		
Staurosira construens v. binodis	1	0.12%		
Staurosira construens v. venter	16	2.00%		
Staurosirella sp.	4	0.50%		girdle
Staurosirella leptostauron	2	0.25%		
Surirella angusta	1	0.12%		
Surirella minuta	2	0.25%		

Sample Count 801

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP011

RAI No.: CC18SBCP011 Sta. Name: Silver Bow Creek above German Gulch
Client ID: SS-15A-2
Date Coll.: 9/21/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	3	0.37%		
Adlafia minuscula v. muralis	3	0.37%		
Amphora pediculus	3	0.37%		
Cocconeis placentula sensu lato	10	1.24%		
Craticula molestiformis	2	0.25%		
Craticula subminuscula	2	0.25%		
Cyclotella meneghiniana	4	0.50%		
Cymbella affinis	2	0.25%		
Diatoma moniliformis	2	0.25%		
Encyonema silesiacum	15	1.87%		
Fragilaria sp.	1	0.12%		Fragilaria socia? striae coarser (15/10um)
Fragilaria vaucheriae	39	4.85%		
Geissleria acceptata	4	0.50%		
Gomphonema parvulum	36	4.48%		
Halamphora oligotraphenta	2	0.25%		
Halamphora veneta	9	1.12%		
Mayamaea permitis	196	24.38%		
Meridion circulare	1	0.12%		
Navicula aitchelbee	21	2.61%		
Navicula gregaria	1	0.12%		
Nitzschia acicularis	1	0.12%		
Nitzschia amphibia	1	0.12%		
Nitzschia dissipata	4	0.50%		
Nitzschia fonticola	16	1.99%		
Nitzschia palea	7	0.87%		
Nitzschia palea v. debilis	61	7.59%		
Nitzschia paleacea	130	16.17%		
Nitzschia soratensis	62	7.71%		
Nitzschia supralitorea	2	0.25%		
Pinnularia borealis	1	0.12%		
Planothidium dubium	2	0.25%		
Planothidium frequentissimum	8	1.00%		
Planothidium lanceolatum	20	2.49%		
Reimeria sinuata	2	0.25%		
Reimeria uniseriata	1	0.12%		
Rhoicosphenia sp.	3	0.37%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	79	9.83%		
Sellaphora auldreekie	2	0.25%		
Sellaphora nigri	2	0.25%		
Sellaphora saugerresii	19	2.36%		
Staurosira construens v. binodis	12	1.49%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP011

RAI No.: CC18SBCP011 Sta. Name: Silver Bow Creek above German Gulch
Client ID: SS-15A-2
Date Coll.: 9/21/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Staurosira construens v. venter	5	0.62%		
Staurosirella leptostauron v. dubia	1	0.12%		
Staurosirella pinnata	1	0.12%		
Surirella angusta	2	0.25%		
Surirella minuta	3	0.37%		
Ulnaria contracta	1	0.12%		
Sample Count	804			

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP012

RAI No.: CC18SBCP012 Sta. Name: Silver Bow Creek below German Gulch
Client ID: SS-15B
Date Coll.: 9/21/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	9	1.13%		
Adlafia minuscula	6	0.75%		
Adlafia minuscula v. muralis	2	0.25%		
Amphora pediculus	3	0.38%		
Caloneis sp.	2	0.25%		girdle
Cocconeis placentula sensu lato	33	4.13%		
Craticula subminuscula	1	0.13%		
Cyclotella meneghiniana	3	0.38%		
Diatoma moniliformis	6	0.75%		
Discostella pseudostelligera	1	0.13%		
Encyonema geisslerae	1	0.13%		damaged
Encyonema reichardtii	1	0.13%		
Encyonema silesiacum	40	5.00%		
Fistulifera saprophila	1	0.13%		
Fragilaria pectinalis	1	0.13%		
Fragilaria vaucheriae	29	3.63%		
Geissleria acceptata	8	1.00%		
Gomphoneis olivaceum	3	0.38%		
Gomphonema sp.	2	0.25%		girdle, 40um narrow wedge coarse striae
Gomphonema parvulum	9	1.13%		
Gomphonema pumilum v. rigidum	2	0.25%		
Halamphora veneta	6	0.75%		
Mayamaea agrestis	3	0.38%		
Mayamaea permitis	195	24.38%		
Melosira varians	3	0.38%		
Navicula aitchelbee	29	3.63%		
Navicula cryptotenella	1	0.13%		
Navicula reichardtiana	2	0.25%		
Navicula tripunctata	4	0.50%		
Nitzschia amphibia	1	0.13%		
Nitzschia dissipata	7	0.88%		
Nitzschia fonticola	13	1.63%		
Nitzschia hantzschiana	2	0.25%		
Nitzschia linearis	1	0.13%		
Nitzschia palea	4	0.50%		
Nitzschia palea v. debilis	61	7.63%		
Nitzschia paleacea	57	7.13%		
Nitzschia pura	3	0.38%		
Nitzschia soratensis	73	9.13%		
Planothidium dubium	2	0.25%		
Planothidium frequentissimum	19	2.38%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP012

RAI No.: CC18SBCP012 Sta. Name: Silver Bow Creek below German Gulch
Client ID: SS-15B
Date Coll.: 9/21/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Planothidium haynaldii	1	0.13%		
Planothidium lanceolatum	28	3.50%		
Pseudostaurosira brevistriata	8	1.00%		girdle
Reimeria sinuata	13	1.63%		
Rhoicosphenia sp.	4	0.50%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	62	7.75%		
Sellaphora nigri	3	0.38%		
Sellaphora saugerresii	16	2.00%		
Staurosira construens v. binodis	2	0.25%		
Staurosira construens v. venter	3	0.38%		
Staurosirella leptostauron	2	0.25%		
Surirella angusta	4	0.50%		
Surirella minuta	3	0.38%		
Ulnaria contracta	2	0.25%		

Sample Count 800

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP013

RAI No.: CC18SBCP013 Sta. Name: German Gulch near confluence
Client ID: SS-15G
Date Coll.: 9/21/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	55	6.87%		
Adlafia minuscula	3	0.37%		
Amphora pediculus	13	1.62%		
Cocconeis pediculus	9	1.12%		
Cocconeis placentula sensu lato	236	29.46%		
Cymbella affinis	12	1.50%		
Cymbella janischii	7	0.87%		
Diatoma moniliformis	15	1.87%		
Encyonema geisslerae	7	0.87%		
Encyonema reichardtii	6	0.75%		
Encyonema silesiacum	14	1.75%		
Fragilaria pectinalis	16	2.00%		
Fragilaria vaucheriae	4	0.50%		
Geissleria acceptata	1	0.12%		
Gomphoneis olivaceum	4	0.50%		
Gomphonema sp.	2	0.25%		girdle, 40um rows punctae
Gomphonema calcifugum	1	0.12%		
Gomphonema pumilum v. rigidum	12	1.50%		
Humidophila contenta	1	0.12%		
Mayamaea permitis	4	0.50%		
Meridion circulare	2	0.25%		
Navicula antonii	1	0.12%		
Navicula arctotenelloides	2	0.25%		
Navicula cryptotenella	18	2.25%		
Navicula reichardtiana	67	8.36%		
Navicula tripunctata	36	4.49%		
Nitzschia acidoclinata	1	0.12%		
Nitzschia dissipata	60	7.49%		
Nitzschia hantzschiana	11	1.37%		
Nitzschia paleacea	24	3.00%		
Nitzschia pura	15	1.87%		
Nitzschia soratensis	7	0.87%		
Planothidium dubium	18	2.25%		
Planothidium frequentissimum	30	3.75%		
Planothidium haynaldii	2	0.25%		
Planothidium lanceolatum	15	1.87%		
Pseudostaurosira brevistriata	1	0.12%		
Reimeria sinuata	14	1.75%		
Reimeria uniseriata	3	0.37%		
Rhoicosphenia sp.	45	5.62%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	5	0.62%		

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP013

RAI No.: CC18SBCP013 Sta. Name: German Gulch near confluence
Client ID: SS-15G
Date Coll.: 9/21/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Staurosirella leptostauron	1	0.12%		
Surirella minuta	1	0.12%		

Sample Count 801

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP014

RAI No.: CC18SBCP014 Sta. Name: Silver Bow Creek in Reach P near Fairmont
Client ID: SS-16B
Date Coll.: 9/19/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	1	0.12%		
Adlafia minuscula v. muralis	11	1.37%		
Amphora pediculus	5	0.62%		
Caloneis bacillum	4	0.50%		
Cocconeis placentula sensu lato	25	3.12%		
Craticula molestiformis	9	1.12%		
Cyclotella meneghiniana	3	0.37%		
Encyonema minutum	1	0.12%		
Encyonema silesiacum	23	2.87%		
Fragilaria vaucheriae	2	0.25%		
Gomphonema parvulum	6	0.75%		
Halamphora veneta	1	0.12%		
Mayamaea agrestis	6	0.75%		
Mayamaea permitis	225	28.05%		
Navicula aitchelbee	7	0.87%		
Navicula reichardtiana	1	0.12%		
Nitzschia dissipata	20	2.49%		
Nitzschia fonticola	80	9.98%		
Nitzschia hantzschiana	5	0.62%		
Nitzschia palea	1	0.12%		
Nitzschia palea v. debilis	23	2.87%		
Nitzschia paleacea	195	24.31%		
Nitzschia soratensis	62	7.73%		
Nitzschia supralitorea	7	0.87%		
Opephora sp.	1	0.12%		
Planothidium frequentissimum	4	0.50%		
Planothidium lanceolatum	12	1.50%		
Reimeria sinuata	5	0.62%		
Reimeria uniseriata	1	0.12%		
Sellaphora atomoides	42	5.24%		
Staurosira construens v. binodis	1	0.12%		
Staurosira construens v. venter	9	1.12%		
Surirella angusta	1	0.12%		
Surirella minuta	3	0.37%		
Sample Count	802			

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP015

RAI No.: CC18SBCP015 Sta. Name: Silver Bow Creek below Stewart Street at Opportunity
Client ID: SS-17D
Date Coll.: 9/20/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	3	0.37%		
Amphora pediculus	14	1.74%		
Caloneis bacillum	2	0.25%		
Cocconeis placentula sensu lato	9	1.12%		
Craticula molestiformis	5	0.62%		
Diatoma moniliformis	1	0.12%		
Encyonema minutum	1	0.12%		
Encyonema silesiacum	27	3.36%		
Fragilaria capucina	4	0.50%		girdle
Fragilaria vaucheriae	5	0.62%		
Geissleria acceptata	1	0.12%		
Gomphoneis olivaceum	1	0.12%		
Gomphonema parvulum	7	0.87%		
Halamphora oligotraphenta	1	0.12%		
Halamphora veneta	3	0.37%		
Mayamaea agrestis	10	1.24%		
Mayamaea permitis	118	14.68%		
Navicula aitchelbee	7	0.87%		
Navicula reichardtiana	1	0.12%		
Nitzschia dissipata	7	0.87%		
Nitzschia fonticola	43	5.35%		
Nitzschia hantzschiana	12	1.49%		
Nitzschia palea	6	0.75%		
Nitzschia palea v. debilis	6	0.75%		
Nitzschia paleacea	96	11.94%		
Nitzschia soratensis	221	27.49%		
Nitzschia supralitorea	4	0.50%		
Planothidium frequentissimum	16	1.99%		
Planothidium lanceolatum	14	1.74%		
Reimeria sinuata	26	3.23%		
Rhoicosphenia sp.	2	0.25%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	111	13.81%		
Sellaphora auldreekie	1	0.12%		
Staurosira construens v. binodis	7	0.87%		
Staurosira construens v. venter	2	0.25%		
Staurosirella ovata	1	0.12%		
Surirella minuta	9	1.12%		
Sample Count	804			

Taxa Listing

Project ID: CC18SBCP
RAI No.: CC18SBCP016

RAI No.: CC18SBCP016 Sta. Name: Silver Bow Creek at Frontage Road
Client ID: SS-19
Date Coll.: 9/20/2018 No Jars: 1 STORET ID:
Sample Notes:

Taxonomic Name	Count	PRA	Cell Count	Comment
Diatoms				
Bacillariophyta				
Achnanthidium minutissimum	1	0.12%		
Adlafia minuscula v. muralis	4	0.50%		
Amphora pediculus	2	0.25%		
Cocconeis placentula sensu lato	2	0.25%		
Craticula molestiformis	1	0.12%		
Encyonema minutum	1	0.12%		
Encyonema silesiacum	43	5.37%		
Eunotia minor	1	0.12%		
Fistulifera saprophila	3	0.37%		
Fragilaria vaucheriae	2	0.25%		
Geissleria acceptata	1	0.12%		
Geissleria decussis	2	0.25%		
Gomphonema parvulum	2	0.25%		
Gomphonema pumilum v. rigidum	1	0.12%		damaged
Halamphora veneta	12	1.50%		
Mayamaea agrestis	10	1.25%		
Mayamaea permitis	178	22.22%		
Navicula aitchelbee	4	0.50%		
Nitzschia adamata	1	0.12%		
Nitzschia dissipata	3	0.37%		
Nitzschia fonticola	27	3.37%		
Nitzschia hantzschiana	3	0.37%		
Nitzschia linearis	2	0.25%		
Nitzschia palea v. debilis	6	0.75%		
Nitzschia paleacea	24	3.00%		
Nitzschia soratensis	149	18.60%		
Planothidium frequentissimum	21	2.62%		
Planothidium lanceolatum	21	2.62%		
Pseudostaurosira brevistriata	2	0.25%		girdle
Reimeria sinuata	13	1.62%		
Rhoicosphenia sp.	2	0.25%		, unable to confirm Rhoicosphenia abbreviata or Rhoicosphen
Sellaphora atomoides	225	28.09%		
Sellaphora saugerresii	1	0.12%		
Staurosira construens v. binodis	16	2.00%		
Staurosira construens v. venter	7	0.87%		
Staurosirella leptostauron	2	0.25%		
Surirella minuta	6	0.75%		
Sample Count	801			

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP001
Station Name:	Blacktail Creek at Father Sheehan Park
Client ID:	SS-01
STORET ID:	
Date Collected:	9/18/2018
Count Of Taxon:	60
Sum Of Count:	801

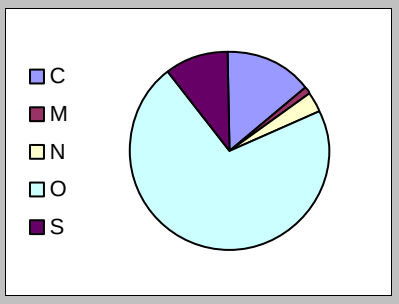
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	5.024	Excellent	Excellent
Species Richness	60	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	55.18%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	8.86%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	44.82%	Fair	Excellent
Motile Taxa Percent	25.84%		
Mountains Brackish Taxa Percent	63.67%		
Plains Brackish Taxa Percent	3.75%		
Organic Nutrients			
Pollution Index	2.366	Good	Excellent
Nitrogen Heterotroph Taxa Percent	12.11%		
Polysaprobous Taxa Percent	33.96%		
Low DO Taxa Percent	4.87%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	48.69%		
Eutraphentic Taxa Percent	28.34%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.87%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	20.60%		
Abnormal Cells Percent	0.00%	Excellent	

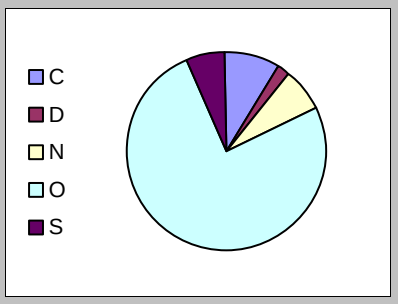
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Fair
MTP	Montana DEQ Plains (Bahls 1992)	Excellent

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	16.85%	34.09%
Mountains Metals Increasers Taxa Percent	1.87%	3.92%
Mountains Nutrient Increasers Taxa Percent	3.62%	6.81%
Mountains Sediment Increasers Taxa Percent	12.23%	27.76%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	2.50%	85.99%
Plains General Increasers Taxa Percent	10.74%	5.26%



Dominant Taxa

Category	A	PRA
Staurosira construens v. binodis	71	8.86%
Nitzschia palea v. debilis	64	7.99%
Planothidium frequentissimum	59	7.37%
Melosira varians	47	5.87%
Sellaphora atomoides	45	5.62%
Staurosira construens v. venter	45	5.62%
Nitzschia soratensis	40	4.99%
Planothidium lanceolatum	33	4.12%
Mayamaea permitis	33	4.12%
Amphora pediculus	28	3.50%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP002
Station Name:	Silver Bow Creek above Butte Reduction Works
Client ID:	SS-05A
STORET ID:	
Date Collected:	9/18/2018
Count Of Taxon:	58
Sum Of Count:	802

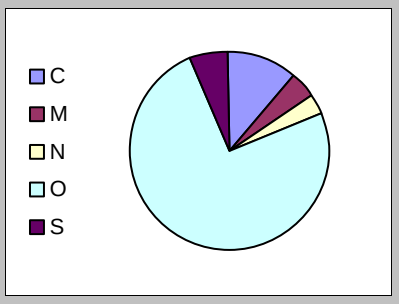
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	4.980	Excellent	Excellent
Species Richness	58	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	58.60%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	9.35%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	50.50%	Fair	Good
Motile Taxa Percent	26.06%		
Mountains Brackish Taxa Percent	59.85%		
Plains Brackish Taxa Percent	1.00%		
Organic Nutrients			
Pollution Index	2.371	Good	Excellent
Nitrogen Heterotroph Taxa Percent	11.47%		
Polysaprobous Taxa Percent	27.93%		
Low DO Taxa Percent	4.86%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	46.38%		
Eutraphentic Taxa Percent	27.31%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.12%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	20.45%		
Abnormal Cells Percent	0.00%	Excellent	

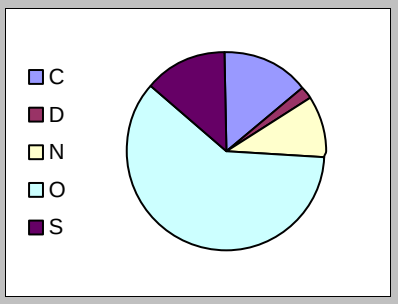
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Fair
MTP	Montana DEQ Plains (Bahls 1992)	Good

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	13.72%	28.43%
Mountains Metals Increasers Taxa Percent	5.11%	6.18%
Mountains Nutrient Increasers Taxa Percent	3.74%	6.94%
Mountains Sediment Increasers Taxa Percent	7.11%	17.36%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	2.49%	85.99%
Plains General Increasers Taxa Percent	18.95%	15.15%



Dominant Taxa

Category	A	PRA
Sellaphora atomoides	75	9.35%
Nitzschia dissipata	70	8.73%
Nitzschia soratensis	57	7.11%
Cocconeis placentula sensu lato	48	5.99%
Nitzschia palea v. debilis	43	5.36%
Melosira varians	41	5.11%
Mayamaea permitis	40	4.99%
Planothidium frequentissimum	38	4.74%
Staurosira construens v. venter	36	4.49%
Planothidium lanceolatum	27	3.37%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP003
Station Name:	Silver Bow Creek above WWTP
Client ID:	SS-06G
STORET ID:	
Date Collected:	9/17/2018
Count Of Taxon:	63
Sum Of Count:	800

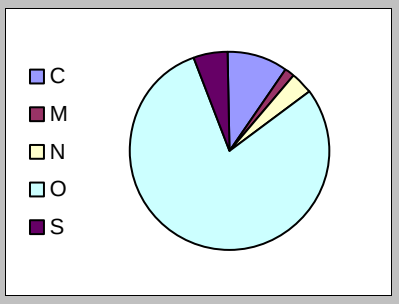
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	4.900	Excellent	Excellent
Species Richness	63	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	57.50%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	11.88%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	46.25%	Fair	Excellent
Motile Taxa Percent	21.50%		
Mountains Brackish Taxa Percent	58.88%		
Plains Brackish Taxa Percent	2.13%		
Organic Nutrients			
Pollution Index	2.386	Good	Excellent
Nitrogen Heterotroph Taxa Percent	8.50%		
Polysaprobous Taxa Percent	28.00%		
Low DO Taxa Percent	4.63%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	45.88%		
Eutraphentic Taxa Percent	31.38%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.63%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	18.38%		
Abnormal Cells Percent	0.00%	Excellent	

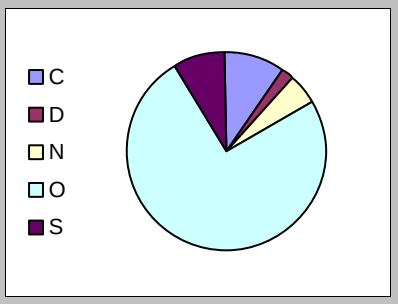
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Fair
MTP	Montana DEQ Plains (Bahls 1992)	Excellent

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	11.38%	24.51%
Mountains Metals Increasers Taxa Percent	2.13%	4.09%
Mountains Nutrient Increasers Taxa Percent	3.75%	6.94%
Mountains Sediment Increasers Taxa Percent	6.25%	15.87%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	2.13%	86.43%
Plains General Increasers Taxa Percent	11.88%	6.18%



Dominant Taxa

Category	A	PRA
Cocconeis placentula sensu lato	95	11.88%
Nitzschia soratensis	71	8.88%
Sellaphora atomoides	64	8.00%
Planothidium frequentissimum	49	6.13%
Mayamaea permitis	49	6.13%
Planothidium lanceolatum	46	5.75%
Nitzschia palea v. debilis	34	4.25%
Rhoicosphenia	32	4.00%
Staurosira construens v. venter	29	3.63%
Navicula cryptotenella	23	2.88%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP004
Station Name:	Silver Bow Creek below WWTP
Client ID:	SS-07
STORET ID:	
Date Collected:	9/17/2018
Count Of Taxon:	52
Sum Of Count:	804

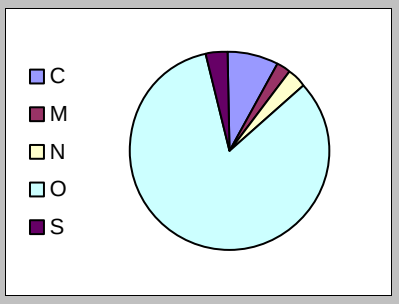
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	4.507	Excellent	Excellent
Species Richness	52	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	52.99%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	18.16%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	51.00%	Fair	Good
Motile Taxa Percent	18.66%		
Mountains Brackish Taxa Percent	54.60%		
Plains Brackish Taxa Percent	2.11%		
Organic Nutrients			
Pollution Index	2.346	Good	Excellent
Nitrogen Heterotroph Taxa Percent	9.20%		
Polysaprobous Taxa Percent	26.37%		
Low DO Taxa Percent	5.10%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	44.40%		
Eutraphentic Taxa Percent	30.60%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.74%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	18.16%		
Abnormal Cells Percent	0.12%	Good	

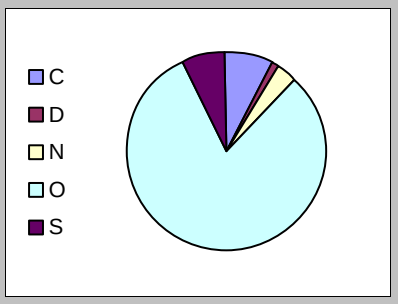
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Fair
MTP	Montana DEQ Plains (Bahls 1992)	Good

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	9.20%	21.19%
Mountains Metals Increasers Taxa Percent	2.61%	4.36%
Mountains Nutrient Increasers Taxa Percent	3.86%	7.08%
Mountains Sediment Increasers Taxa Percent	3.86%	12.30%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	1.62%	87.29%
Plains General Increasers Taxa Percent	9.08%	4.09%



Dominant Taxa

Category	A	PRA
Sellaphora atomoides	146	18.16%
Cocconeis placentula sensu lato	104	12.94%
Mayamaea permitis	61	7.59%
Planothidium frequentissimum	56	6.97%
Nitzschia soratensis	52	6.47%
Planothidium lanceolatum	45	5.60%
Rhoicosphenia	26	3.23%
Nitzschia palea v. debilis	23	2.86%
Nitzschia dissipata	21	2.61%
Encyonema silesiacum	19	2.36%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP005
Station Name:	Silver Bow Creek at Rocker
Client ID:	SS-08
STORET ID:	
Date Collected:	9/17/2018
Count Of Taxon:	57
Sum Of Count:	802

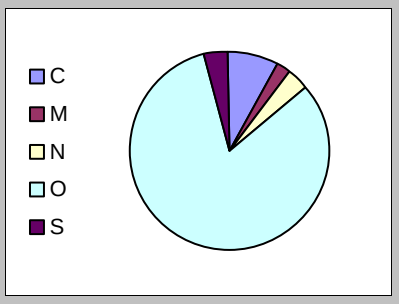
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	4.564	Excellent	Excellent
Species Richness	57	Excellent	Excellent
Native Taxa Percent	0.25%		
Cosmopolitan Taxa Percent	46.51%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	20.70%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	53.99%	Fair	Good
Motile Taxa Percent	18.45%		
Mountains Brackish Taxa Percent	50.50%		
Plains Brackish Taxa Percent	1.12%		
Organic Nutrients			
Pollution Index	2.374	Good	Excellent
Nitrogen Heterotroph Taxa Percent	12.84%		
Polysaprobous Taxa Percent	24.56%		
Low DO Taxa Percent	8.23%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	39.90%		
Eutraphentic Taxa Percent	25.81%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.37%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	12.59%		
Abnormal Cells Percent	0.00%	Excellent	

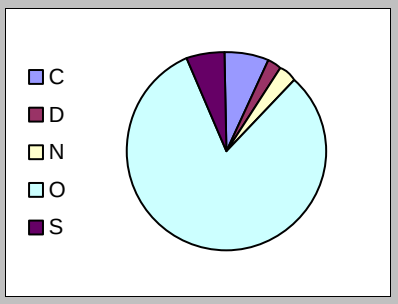
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Fair
MTP	Montana DEQ Plains (Bahls 1992)	Good

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	9.48%	21.77%
Mountains Metals Increasers Taxa Percent	2.74%	4.46%
Mountains Nutrient Increasers Taxa Percent	3.74%	6.94%
Mountains Sediment Increasers Taxa Percent	4.36%	12.92%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	2.74%	85.54%
Plains General Increasers Taxa Percent	8.10%	3.52%



Dominant Taxa

Category	A	PRA
Sellaphora atomoides	166	20.70%
Nitzschia soratensis	63	7.86%
Cocconeis placentula sensu lato	60	7.48%
Staurosira construens v. binodis	49	6.11%
Staurosira construens v. venter	48	5.99%
Mayamaea permitis	43	5.36%
Rhoicosphenia	33	4.11%
Sellaphora saugerresii	29	3.62%
Planothidium frequentissimum	27	3.37%
Planothidium lanceolatum	27	3.37%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP006
Station Name:	Silver Bow Creek above Sand Creek
Client ID:	SS-10A
STORET ID:	
Date Collected:	9/18/2018
Count Of Taxon:	42
Sum Of Count:	803

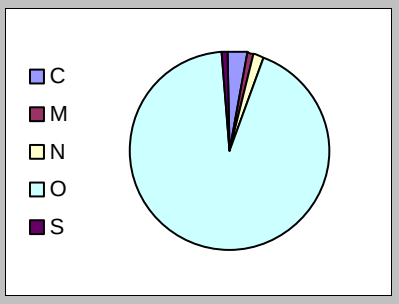
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.791	Excellent	Good
Species Richness	42	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	33.75%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	25.78%	Good	Good
Sediment			
Siltation Taxa Percent	76.21%	Poor	Fair
Motile Taxa Percent	16.94%		
Mountains Brackish Taxa Percent	34.99%		
Plains Brackish Taxa Percent	1.12%		
Organic Nutrients			
Pollution Index	1.957	Fair	Good
Nitrogen Heterotroph Taxa Percent	13.33%		
Polysaprobous Taxa Percent	25.40%		
Low DO Taxa Percent	10.46%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	22.04%		
Eutraphentic Taxa Percent	22.29%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.25%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	16.44%		
Abnormal Cells Percent	0.00%	Excellent	

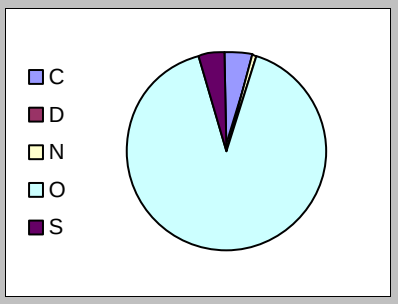
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	3.36%	13.57%
Mountains Metals Increasers Taxa Percent	0.87%	3.44%
Mountains Nutrient Increasers Taxa Percent	1.99%	5.59%
Mountains Sediment Increasers Taxa Percent	1.25%	9.01%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.25%	88.88%
Plains General Increasers Taxa Percent	4.61%	1.97%



Dominant Taxa

Category	A	PRA
Nitzschia soratensis	207	25.78%
Mayamaea permitis	121	15.07%
Sellaphora atomoides	111	13.82%
Sellaphora saugerresii	59	7.35%
Planothidium lanceolatum	47	5.85%
Nitzschia palea v. debilis	31	3.86%
Planothidium frequentissimum	26	3.24%
Cocconeis placentula sensu lato	21	2.62%
Encyonema silesiacum	19	2.37%
Staurosira construens v. venter	19	2.37%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP007
Station Name:	Silver Bow Creek above Browns Gulch
Client ID:	SS-11C
STORET ID:	
Date Collected:	9/19/2018
Count Of Taxon:	45
Sum Of Count:	803

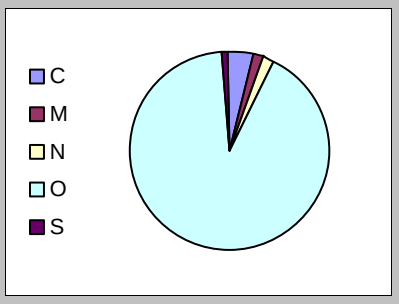
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.506	Excellent	Good
Species Richness	45	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	29.76%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	36.61%	Good	Good
Sediment			
Siltation Taxa Percent	83.81%	Poor	Fair
Motile Taxa Percent	16.06%		
Mountains Brackish Taxa Percent	28.77%		
Plains Brackish Taxa Percent	0.75%		
Organic Nutrients			
Pollution Index	1.942	Fair	Good
Nitrogen Heterotroph Taxa Percent	12.95%		
Polysaprobous Taxa Percent	21.54%		
Low DO Taxa Percent	6.85%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	16.69%		
Eutraphentic Taxa Percent	19.05%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.50%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	17.06%		
Abnormal Cells Percent	0.00%	Excellent	

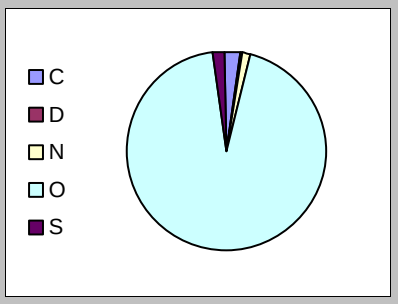
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	4.48%	14.92%
Mountains Metals Increasers Taxa Percent	1.62%	3.84%
Mountains Nutrient Increasers Taxa Percent	2.12%	5.71%
Mountains Sediment Increasers Taxa Percent	1.12%	8.85%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.50%	88.69%
Plains General Increasers Taxa Percent	2.49%	1.36%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	294	36.61%
Sellaphora atomoides	101	12.58%
Nitzschia soratensis	75	9.34%
Nitzschia palea v. debilis	57	7.10%
Staurosira construens v. venter	43	5.35%
Sellaphora saugerresii	38	4.73%
Adlafia minuscula v. muralis	36	4.48%
Planothidium lanceolatum	27	3.36%
Planothidium frequentissimum	16	1.99%
Nitzschia fonticola	10	1.25%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP008
Station Name:	Silver Bow Creek below Browns Gulch
Client ID:	SS-11D
STORET ID:	
Date Collected:	9/19/2018
Count Of Taxon:	53
Sum Of Count:	801

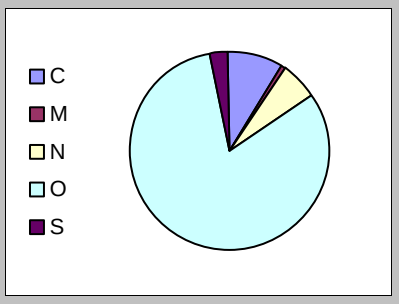
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.946	Excellent	Good
Species Richness	53	Excellent	Excellent
Native Taxa Percent	0.12%		
Cosmopolitan Taxa Percent	35.21%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	29.46%	Good	Good
Sediment			
Siltation Taxa Percent	76.03%	Poor	Fair
Motile Taxa Percent	16.85%		
Mountains Brackish Taxa Percent	30.09%		
Plains Brackish Taxa Percent	1.25%		
Organic Nutrients			
Pollution Index	2.026	Good	Good
Nitrogen Heterotroph Taxa Percent	13.23%		
Polysaprobous Taxa Percent	29.21%		
Low DO Taxa Percent	7.74%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	22.97%		
Eutraphentic Taxa Percent	22.22%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.62%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	26.47%		
Abnormal Cells Percent	0.00%	Excellent	

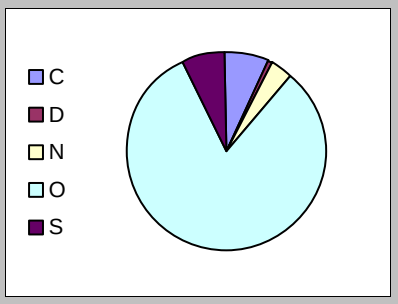
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	10.36%	22.97%
Mountains Metals Increasers Taxa Percent	0.75%	3.36%
Mountains Nutrient Increasers Taxa Percent	6.74%	9.85%
Mountains Sediment Increasers Taxa Percent	3.50%	11.70%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.62%	88.49%
Plains General Increasers Taxa Percent	8.36%	3.67%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	236	29.46%
Nitzschia soratensis	84	10.49%
Sellaphora atomoides	76	9.49%
Nitzschia palea v. debilis	66	8.24%
Planothidium lanceolatum	45	5.62%
Nitzschia paleacea	39	4.87%
Planothidium frequentissimum	35	4.37%
Encyonema silesiacum	29	3.62%
Sellaphora saugerresii	25	3.12%
Staurosira construens v. venter	14	1.75%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP009
Station Name:	Silver Bow Creek in Reach L
Client ID:	SS-13
STORET ID:	
Date Collected:	9/19/2018
Count Of Taxon:	39
Sum Of Count:	801

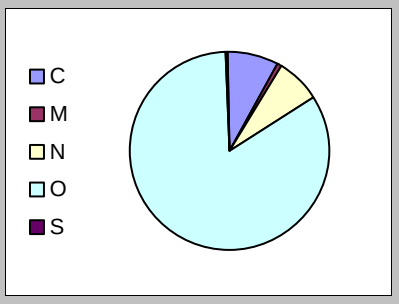
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.256	Excellent	Good
Species Richness	39	Excellent	Good
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	23.22%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	39.83%	Good	Good
Sediment			
Siltation Taxa Percent	85.39%	Poor	Fair
Motile Taxa Percent	13.23%		
Mountains Brackish Taxa Percent	18.73%		
Plains Brackish Taxa Percent	0.62%		
Organic Nutrients			
Pollution Index	2.077	Good	Good
Nitrogen Heterotroph Taxa Percent	10.99%		
Polysaprobous Taxa Percent	19.48%		
Low DO Taxa Percent	3.12%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	14.11%		
Eutraphentic Taxa Percent	17.10%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.00%		
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	24.84%		
Abnormal Cells Percent	0.00%	Excellent	

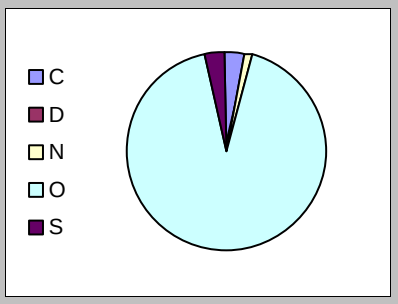
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	8.99%	20.90%
Mountains Metals Increasers Taxa Percent	1.12%	3.52%
Mountains Nutrient Increasers Taxa Percent	7.74%	11.12%
Mountains Sediment Increasers Taxa Percent	0.37%	8.08%



Metric	Value	Prob.
Plains General Increasers Taxa Percent	3.75%	1.70%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	319	39.83%
Nitzschia soratensis	97	12.11%
Nitzschia palea v. debilis	75	9.36%
Sellaphora atomoides	65	8.11%
Nitzschia paleacea	59	7.37%
Planothidium lanceolatum	25	3.12%
Navicula aitchelbee	24	3.00%
Encyonema silesiacum	23	2.87%
Sellaphora saugerresii	17	2.12%
Cocconeis placentula sensu lato	16	2.00%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP010
Station Name:	Silver Bow Creek at Miles Crossing
Client ID:	SS-14
STORET ID:	
Date Collected:	9/18/2018
Count Of Taxon:	48
Sum Of Count:	801

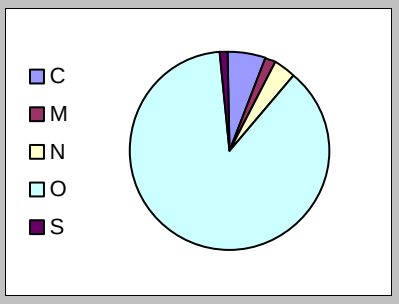
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.789	Excellent	Good
Species Richness	48	Excellent	Excellent
Native Taxa Percent	0.12%		
Cosmopolitan Taxa Percent	32.08%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	29.96%	Good	Good
Sediment			
Siltation Taxa Percent	76.53%	Poor	Fair
Motile Taxa Percent	16.23%		
Mountains Brackish Taxa Percent	30.71%		
Plains Brackish Taxa Percent	1.12%		
Organic Nutrients			
Pollution Index	2.154	Good	Good
Nitrogen Heterotroph Taxa Percent	9.11%		
Polysaprobous Taxa Percent	21.97%		
Low DO Taxa Percent	4.99%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	23.72%		
Eutraphentic Taxa Percent	18.60%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.37%	Excellent	Excellent
Acidophilous Taxa Percent	0.25%		
Metals Tolerant Taxa Percent	19.35%		
Abnormal Cells Percent	0.00%	Excellent	

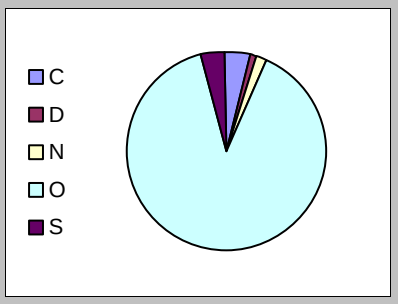
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	6.87%	17.88%
Mountains Metals Increasers Taxa Percent	1.87%	3.92%
Mountains Nutrient Increasers Taxa Percent	3.62%	6.81%
Mountains Sediment Increasers Taxa Percent	1.62%	9.51%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	1.12%	87.90%
Plains General Increasers Taxa Percent	4.49%	1.92%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	240	29.96%
Nitzschia soratensis	115	14.36%
Sellaphora atomoides	78	9.74%
Nitzschia palea v. debilis	57	7.12%
Planothidium lanceolatum	44	5.49%
Planothidium frequentissimum	32	4.00%
Reimeria sinuata	27	3.37%
Sellaphora saugerresii	26	3.25%
Nitzschia paleacea	26	3.25%
Navicula aitchelbee	18	2.25%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP011
Station Name:	Silver Bow Creek above German Gulch
Client ID:	SS-15A-2
STORET ID:	
Date Collected:	9/21/2018
Count Of Taxon:	47
Sum Of Count:	804

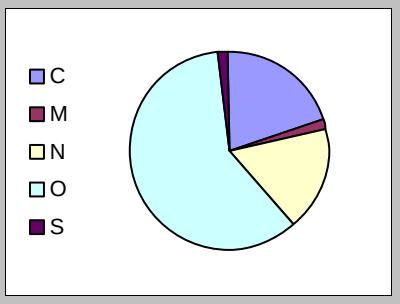
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.882	Excellent	Good
Species Richness	47	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	43.16%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	24.38%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	77.11%	Poor	Fair
Motile Taxa Percent	26.49%		
Mountains Brackish Taxa Percent	27.24%		
Plains Brackish Taxa Percent	0.50%		
Organic Nutrients			
Pollution Index	1.965	Fair	Good
Nitrogen Heterotroph Taxa Percent	25.75%		
Polysaprobous Taxa Percent	37.94%		
Low DO Taxa Percent	8.96%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	19.65%		
Eutraphentic Taxa Percent	37.06%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.37%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	39.55%		
Abnormal Cells Percent	0.00%	Excellent	

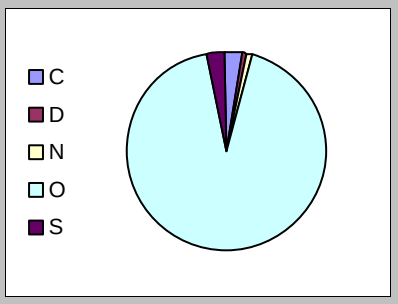
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	25.25%	50.80%
Mountains Metals Increasers Taxa Percent	2.11%	4.09%
Mountains Nutrient Increasers Taxa Percent	20.90%	35.20%
Mountains Sediment Increasers Taxa Percent	2.24%	10.20%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.87%	88.10%
Plains General Increasers Taxa Percent	3.23%	1.54%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	196	24.38%
Nitzschia paleacea	130	16.17%
Sellaphora atomoides	79	9.83%
Nitzschia soratensis	62	7.71%
Nitzschia palea v. debilis	61	7.59%
Fragilaria vaucheriae	39	4.85%
Gomphonema parvulum	36	4.48%
Navicula aitchelbee	21	2.61%
Planothidium lanceolatum	20	2.49%
Sellaphora saugerresii	19	2.36%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP012
Station Name:	Silver Bow Creek below German Gulch
Client ID:	SS-15B
STORET ID:	
Date Collected:	9/21/2018
Count Of Taxon:	55
Sum Of Count:	800

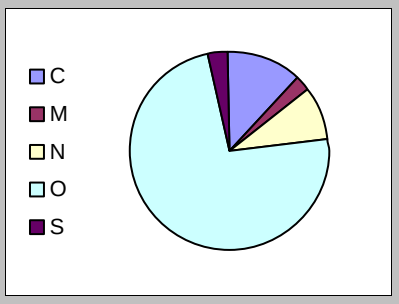
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	4.267	Excellent	Excellent
Species Richness	55	Excellent	Excellent
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	41.25%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	24.38%	Excellent	Excellent
Sediment			
Siltation Taxa Percent	70.25%	Poor	Fair
Motile Taxa Percent	20.50%		
Mountains Brackish Taxa Percent	35.63%		
Plains Brackish Taxa Percent	2.00%		
Organic Nutrients			
Pollution Index	2.129	Good	Good
Nitrogen Heterotroph Taxa Percent	12.25%		
Polysaprobous Taxa Percent	29.25%		
Low DO Taxa Percent	4.38%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	29.63%		
Eutraphentic Taxa Percent	27.25%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	1.13%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	30.63%		
Abnormal Cells Percent	0.00%	Excellent	

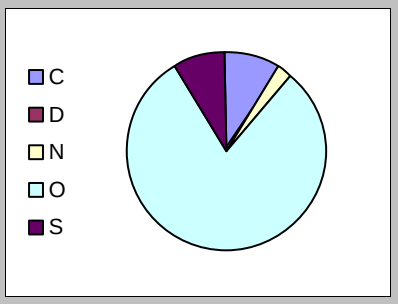
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	14.63%	30.15%
Mountains Metals Increasers Taxa Percent	2.88%	4.55%
Mountains Nutrient Increasers Taxa Percent	10.25%	14.46%
Mountains Sediment Increasers Taxa Percent	4.00%	12.51%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.50%	88.69%
Plains General Increasers Taxa Percent	10.13%	4.75%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	195	24.38%
Nitzschia soratensis	73	9.13%
Sellaphora atomoides	62	7.75%
Nitzschia palea v. debilis	61	7.63%
Nitzschia paleacea	57	7.13%
Encyonema silesiacum	40	5.00%
Cocconeis placentula sensu lato	33	4.13%
Fragilaria vaucheriae	29	3.63%
Navicula aitchelbee	29	3.63%
Planothidium lanceolatum	28	3.50%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP013
Station Name:	German Gulch near confluence
Client ID:	SS-15G
STORET ID:	
Date Collected:	9/21/2018
Count Of Taxon:	43
Sum Of Count:	801

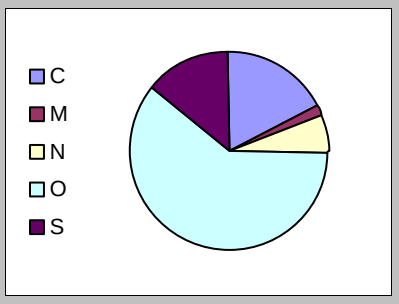
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	4.085	Excellent	Excellent
Species Richness	43	Excellent	Excellent
Native Taxa Percent	0.87%		
Cosmopolitan Taxa Percent	77.90%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	29.46%	Good	Good
Sediment			
Siltation Taxa Percent	32.08%	Good	Excellent
Motile Taxa Percent	33.83%		
Mountains Brackish Taxa Percent	77.28%		
Plains Brackish Taxa Percent	2.00%		
Organic Nutrients			
Pollution Index	2.664	Excellent	Excellent
Nitrogen Heterotroph Taxa Percent	3.00%		
Polysaprobous Taxa Percent	21.22%		
Low DO Taxa Percent	0.00%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	67.04%		
Eutraphentic Taxa Percent	46.19%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	6.87%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	9.86%		
Abnormal Cells Percent	0.00%	Excellent	

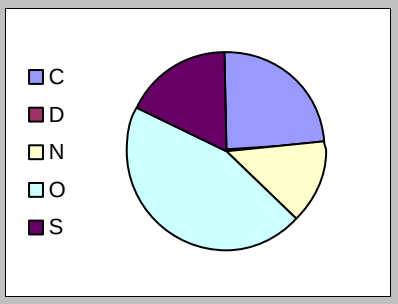
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Good
MTP	Montana DEQ Plains (Bahls 1992)	Good

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	22.60%	45.62%
Mountains Metals Increasers Taxa Percent	2.62%	4.36%
Mountains Nutrient Increasers Taxa Percent	7.49%	10.75%
Mountains Sediment Increasers Taxa Percent	17.73%	41.68%



Metric	Value	Prob.
Plains General Increasers Taxa Percent	34.83%	53.98%



Dominant Taxa

Category	A	PRA
Cocconeis placentula sensu lato	236	29.46%
Navicula reichardtiana	67	8.36%
Nitzschia dissipata	60	7.49%
Achnanthidium minutissimum	55	6.87%
Rhoicosphenia	45	5.62%
Navicula tripunctata	36	4.49%
Planothidium frequentissimum	30	3.75%
Nitzschia paleacea	24	3.00%
Navicula cryptotenella	18	2.25%
Planothidium dubium	18	2.25%

Metrics Report

Project ID: CC18SBCP
Sample ID: CC18SBCP014
Station Name: Silver Bow Creek in Reach P near Fairmont
Client ID: SS-16B
STORET ID:
Date Collected: 9/19/2018
Count Of Taxon: 34
Sum Of Count: 802

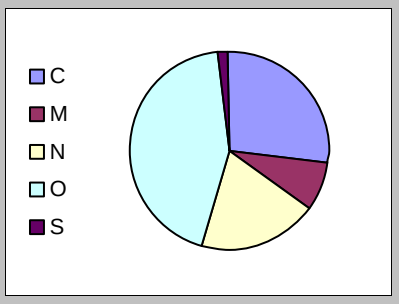
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.383	Excellent	Good
Species Richness	34	Excellent	Good
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	51.87%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	28.05%	Good	Good
Sediment			
Siltation Taxa Percent	87.03%	Poor	Fair
Motile Taxa Percent	44.26%		
Mountains Brackish Taxa Percent	30.17%		
Plains Brackish Taxa Percent	0.62%		
Organic Nutrients			
Pollution Index	2.268	Good	Excellent
Nitrogen Heterotroph Taxa Percent	28.93%		
Polysaprobous Taxa Percent	34.79%		
Low DO Taxa Percent	2.37%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	24.94%		
Eutraphentic Taxa Percent	35.04%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.12%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	34.66%		
Abnormal Cells Percent	0.12%	Good	

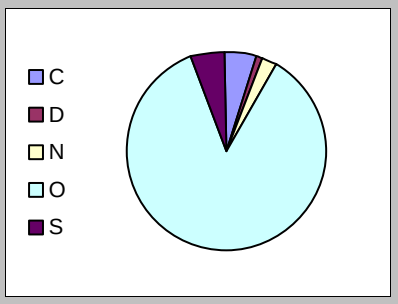
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	37.91%	74.86%
Mountains Metals Increasers Taxa Percent	11.22%	12.92%
Mountains Nutrient Increasers Taxa Percent	25.69%	47.21%
Mountains Sediment Increasers Taxa Percent	2.24%	10.20%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	1.25%	87.70%
Plains General Increasers Taxa Percent	5.74%	2.39%



Dominant Taxa

Category	A	PRA
Mayamaea permitis	225	28.05%
Nitzschia paleacea	195	24.31%
Nitzschia fonticola	80	9.98%
Nitzschia soratensis	62	7.73%
Sellaphora atomoides	42	5.24%
Cocconeis placentula sensu lato	25	3.12%
Encyonema silesiacum	23	2.87%
Nitzschia palea v. debilis	23	2.87%
Nitzschia dissipata	20	2.49%
Planothidium lanceolatum	12	1.50%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP015
Station Name:	Silver Bow Creek below Stewart Street at Opportunity
Client ID:	SS-17D
STORET ID:	
Date Collected:	9/20/2018
Count Of Taxon:	37
Sum Of Count:	804

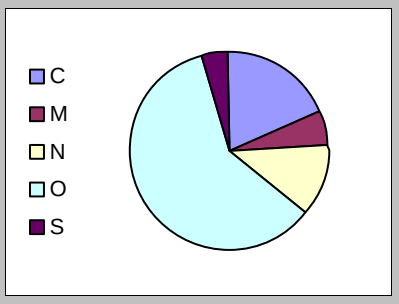
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.592	Excellent	Good
Species Richness	37	Excellent	Good
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	37.19%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	27.49%	Good	Good
Sediment			
Siltation Taxa Percent	81.84%	Poor	Fair
Motile Taxa Percent	29.73%		
Mountains Brackish Taxa Percent	28.61%		
Plains Brackish Taxa Percent	1.62%		
Organic Nutrients			
Pollution Index	2.281	Good	Excellent
Nitrogen Heterotroph Taxa Percent	14.68%		
Polysaprobous Taxa Percent	24.25%		
Low DO Taxa Percent	2.24%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	24.00%		
Eutraphentic Taxa Percent	21.64%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.37%	Excellent	Excellent
Acidophilous Taxa Percent	0.00%		
Metals Tolerant Taxa Percent	21.77%		
Abnormal Cells Percent	0.00%	Excellent	

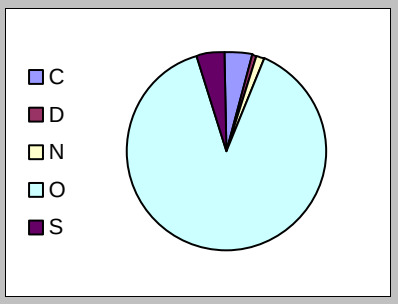
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	24.00%	48.40%
Mountains Metals Increasers Taxa Percent	7.21%	8.08%
Mountains Nutrient Increasers Taxa Percent	14.43%	21.48%
Mountains Sediment Increasers Taxa Percent	5.35%	14.46%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.50%	88.69%
Plains General Increasers Taxa Percent	5.10%	2.12%



Dominant Taxa

Category	A	PRA
Nitzschia soratensis	221	27.49%
Mayamaea permitis	118	14.68%
Sellaphora atomoides	111	13.81%
Nitzschia paleacea	96	11.94%
Nitzschia fonticola	43	5.35%
Encyonema silesiacum	27	3.36%
Reimeria sinuata	26	3.23%
Planothidium frequentissimum	16	1.99%
Amphora pediculus	14	1.74%
Planothidium lanceolatum	14	1.74%

Metrics Report

Project ID:	CC18SBCP
Sample ID:	CC18SBCP016
Station Name:	Silver Bow Creek at Frontage Road
Client ID:	SS-19
STORET ID:	
Date Collected:	9/20/2018
Count Of Taxon:	37
Sum Of Count:	801

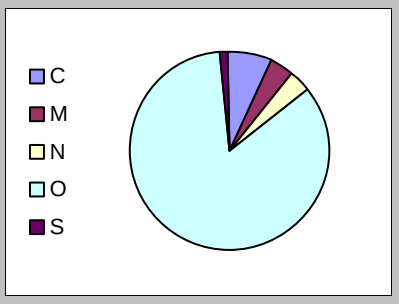
Metrics (Bahls 1993)

Metric	Value	MTM	MTP
Community Structure			
Shannon H (log2)	3.269	Excellent	Good
Species Richness	37	Excellent	Good
Native Taxa Percent	0.00%		
Cosmopolitan Taxa Percent	25.09%		
Mountains Rare Taxa Percent	0.00%		
Plains Rare Taxa Percent	0.00%		
Dominant Taxon Percent	28.09%	Good	Good
Sediment			
Siltation Taxa Percent	81.15%	Poor	Fair
Motile Taxa Percent	13.86%		
Mountains Brackish Taxa Percent	24.47%		
Plains Brackish Taxa Percent	0.62%		
Organic Nutrients			
Pollution Index	2.195	Good	Good
Nitrogen Heterotroph Taxa Percent	4.00%		
Polysaprobous Taxa Percent	17.60%		
Low DO Taxa Percent	0.50%		
Inorganic Nutrients			
Nitrogen Autotroph Taxa Percent	22.72%		
Eutraphentic Taxa Percent	9.99%		
Rhopalodiales Percent	0.00%		
Metals			
Disturbance Taxa Percent	0.12%	Excellent	Excellent
Acidophilous Taxa Percent	0.12%		
Metals Tolerant Taxa Percent	13.61%		
Abnormal Cells Percent	0.00%	Excellent	

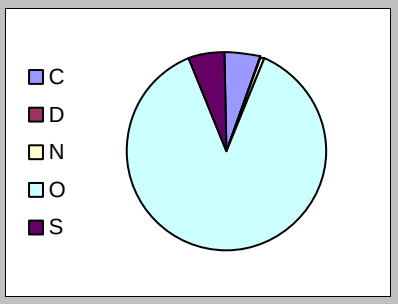
BioIndex	Description	Rating
MTM	Montana DEQ Mountains (Bahls 1992)	Poor
MTP	Montana DEQ Plains (Bahls 1992)	Fair

Increaser/Decreaser Taxa (Teply and Bahls 2005)

Metric	Value	Prob.
Mountains General Increasers Taxa Percent	8.36%	20.05%
Mountains Metals Increasers Taxa Percent	4.12%	5.37%
Mountains Nutrient Increasers Taxa Percent	3.87%	7.08%
Mountains Sediment Increasers Taxa Percent	1.62%	9.51%



Metric	Value	Prob.
Plains General Decreasers Taxa Percent	0.25%	88.88%
Plains General Increasers Taxa Percent	6.24%	2.56%



Dominant Taxa

Category	A	PRA
Sellaphora atomoides	225	28.09%
Mayamaea permitis	178	22.22%
Nitzschia soratensis	149	18.60%
Encyonema silesiacum	43	5.37%
Nitzschia fonticola	27	3.37%
Nitzschia paleacea	24	3.00%
Planothidium lanceolatum	21	2.62%
Planothidium frequentissimum	21	2.62%
Staurosira construens v. binodis	16	2.00%
Reimeria sinuata	13	1.62%

APPENDIX J

Fish Sampling Locations

Table J-1. Fish sampling locations in Silver Bow Creek, 2018.

Section Name	Section Length (m)	Estimate Type	Downstream Latitude	Downstream Longitude
Hwy 1 Bridge	325	Depletion	46.09515	-112.80497
Fairmont	338	Depletion	46.04733	-112.79514
Below German Gulch	388	Depletion	46.02852	-112.79500
Ramsay	365	Depletion	46.00009	-112.68518
Rocker	250	Depletion	46.00108	-112.59348
LAO	237	Depletion	45.99606	-112.56037